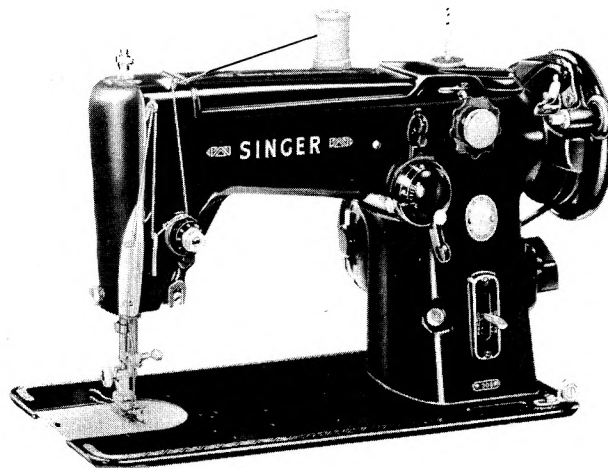


# **SINGER\*** *Automatic*

## **SWING-NEEDLE SEWING MACHINES 306K/306W**



Form K6005 (876)

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### **AS THE OWNER OF THIS NEW SINGER "AUTOMATIC"**

You may take pride in having the finest zigzag sewing machine ever made for home use. You can be confident that this extraordinarily versatile machine is built with the expert care and knowledge that have made SINGER the best-known and respected name in sewing machines the world over for more than a century. With it you can do beautiful and complex stitches automatically! No more skill is required than it takes to sew an ordinary seam. This amazing machine will speed through your straight sewing and then, by simply using "Discs," do decorative stitching in no more time or with no more effort than it takes to do straight stitching.

### **TO GET THE MOST ENJOYMENT FROM YOUR SINGER**

Take advantage of the free sewing lessons to which you are entitled! Skilled, SINGER-trained teachers will give you personal guidance and assist you in learning the fundamentals of home sewing.

## ADVANCED FEATURES OF THE SINGER 306

1. **VERSATILITY** — A straight stitching machine of highest calibre capable of full zigzag and automatic decorative stitching.
2. **AUTOMATIC STITCHES** — scalloped edges, blind stitched hems, decorative designs or simple mending—are made with interchangeable Discs which “remember” different stitch patterns. Unlimited effects are possible by simply adjusting the stitch length and needle position and through the interchange of additional discs.
3. **TWIN-NEEDLE DECORATIVE WORK** can now be done without attachments, using the special Twin Needles.
4. **FRONT THREADING NEEDLE** visible eye is quickly threaded.
5. **ROTARY MOVEMENT** for smooth, quiet performance...full rotary sewing hook.
6. **FULL VISION BOBBIN CASE** facilitates removal and replacement. Time-saving, extra capacity, round bobbin.
7. **CALIBRATED TENSION** for accurate adjustment to any type of fabric.
8. **REVERSIBLE FEED** for sewing either forward or backward—easy to back stitch and fasten ends of seams.
9. **CALIBRATED STITCH REGULATOR** with fingertip control.
10. **SMOOTH, SEAMLESS THROAT PLATES** clip on to ensure snag-free performance.
11. **POSITIVE FEED** for handling all types of fabrics.
12. **FEED THROW-OUT** permits darning and embroidering.
13. **PERFECT CONTROL** whether sewing at high or low speeds.
14. **ONE-WAY NEEDLE CLAMP** makes it almost impossible to place needle in clamp incorrectly.
15. **ALUMINIUM CONSTRUCTION** means durability and light weight.

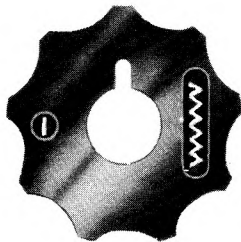
4

## AUTOMATIC STITCH DESIGNS

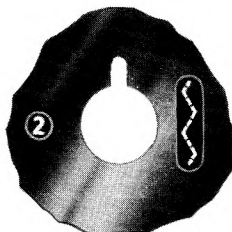
Many stitch designs are produced automatically through the interchange of Discs. Sit back and marvel at the stitch patterns being formed.

The six basic Discs, furnished with the machine and illustrated below, are functional as well as decorative in their application. Further description of each disc is given on pages 21 and 22.

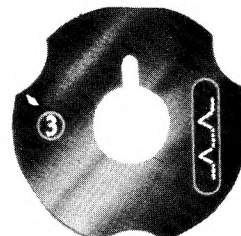
### DISCS



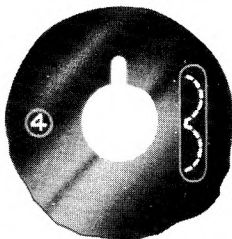
1—Zigzag



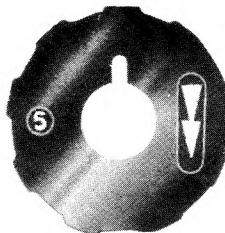
2—Multiple Stitch Zigzag



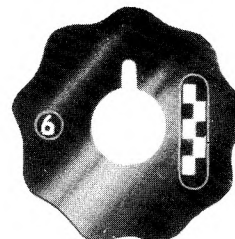
3—Blind Stitch



4—Scallop



5—Arrowhead



6—Domino

Each disc is identified by number and by the basic stitch pattern it will produce.

**CHART SHOWING RELATIONSHIP OF TYPES OF FABRICS, THREAD AND  
NEEDLE SIZES AND MACHINE STITCH SETTINGS**

TYPES OF FABRICS	THREAD SIZES	NEEDLE SIZES	MACHINE STITCH SETTINGS FOR STRAIGHT SEWING	
			INSIDE SEAMS	TOP STITCHING
Very thin Silk, Muslin, Cambric, Lightweight Delicate Fabrics, etc.	100 to 150 Cotton, 50 Silk, 80 Mercerised Darning Cotton	9	15 to 20	15 to 20
Fine Calicoes, Linens, Shirtings, Fine Silk Goods, Nylon, etc.	80 to 100 Cotton, 50 Silk, 50 Mercerised Darning Cotton	11	12 to 15	15 to 20
Plastic Materials	50 to 80 Mercerised Cotton	11	10	12
Shirtings, Sheetings, Bleached Calicoes, Silk, General Domestic Goods, Light Woollen Goods and all classes of general work	60 to 80 Cotton, 50 Silk, 50 Sylko	14	12	15 to 18
All kinds of heavy Calicoes, Drill, Woollen Goods, etc.	40 to 60 Cotton	16	10	12
Tickings, Heavy Woollens, Trousers, Boys' Clothing, Corsets, Cloaks, Mantles, Heavy Coats and Heavy Clothing generally	24 to 40 Cotton, 60 to 80 Linen	18	8	10

*When ordering needles, always specify "Class and Variety 206x13" (Catalogue 2029) and state the size and quantity required.*

*You will obtain the best stitching results from your Sewing Machine if it is fitted with a SINGER\* Needle.*

**See Page 8 for ordering TWIN NEEDLES**

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**NEEDLES AND THREAD**

For perfect stitching, thread should be selected according to fabric to be stitched and needle must be correct size for thread to pass freely through its eye. Select correct needle according to table on Page 6. Be sure that needle is not blunt or bent.

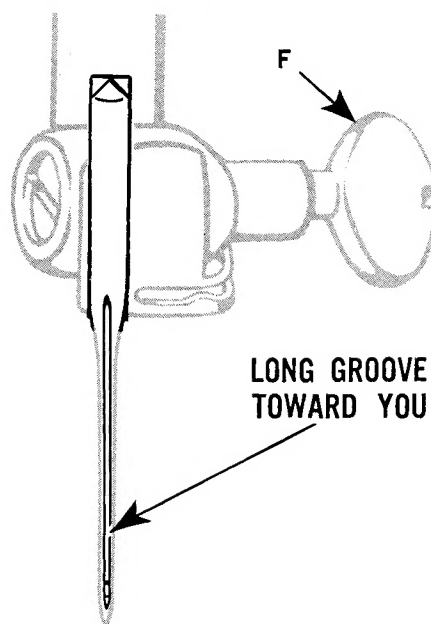
**Note :** Thread breakage is sometimes caused by variations in the diameter of thread. Such breakage is overcome by using the next size larger needle.

Use like threads for needle and bobbin. Do not use silk on bobbin and mercerized thread in needle or vice versa.

**TO SET THE NEEDLE**

Raise the needle bar to its highest position and loosen thumb screw F, Fig. 1 in the needle clamp. Insert needle into clamp as far as it will go with flat side to the back and long groove toward you. Then tighten thumb screw F.

**206 x 13 (Catalogue 2029) NEEDLE**



*Fig. 1. Setting Needle  
in Needle Clamp.*

7

## TO SET TWIN NEEDLES

Follow same procedure as described for setting single needle (see Page 7).

**CAUTION:** Before stitching with TWIN NEEDLES be sure that Needle Position Lever is set for central position as shown in Fig. 20, Page 18 and that the machine is not operated at a bight exceeding the number shown on the cross bar of the TWIN NEEDLES. Set bight limit screw F2, Fig. 22 at a point equivalent to the number on the cross bar using the method described on Page 19. Should a narrower bight be desired, screw E2, Fig. 22, is used in addition to screw F2.

In performing TWIN NEEDLE work, the All-purpose Throat Plate and Presser Foot (or Special Purpose Presser Foot) must be used in addition to setting the machine as described above. Failure to heed this caution will result in the blunting or breaking of the needles.

Straight stitching, zigzag stitching, as well as ornamental stitching can be performed when using TWIN NEEDLES.

When ordering TWIN NEEDLES, it is necessary to specify the quantity, class and variety (306x3, Catalogue 2036) and the space number, such as "3," as well as the size of the needles. The following is an example of an intelligible order:

"10 Class and Variety 306x3-3 (Catalogue 2036), Size 14 Needles."

### 306 x 3—3 (Catalogue 2036) NEEDLES

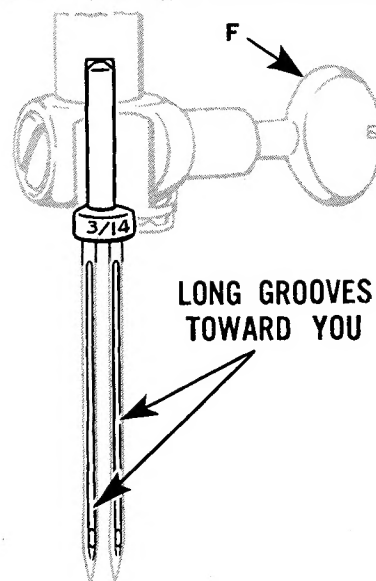


Fig. 2. Setting Twin Needles in Needle Clamp.

8

## UPPER THREADING—SINGLE NEEDLE

Raise take-up lever 5 to its highest point. Place spool of thread on spool pin and hold spool with right hand.

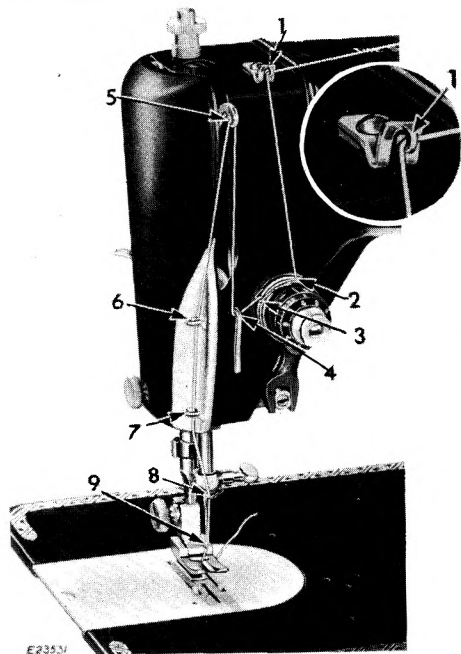


Fig. 3. Upper Threading.

Lead thread into self-threading guide 1 from underside.

Down and from right to left behind or in front of centre tension disc 2. (Centre disc separates threads for twin needle sewing).

Into the loop of the take-up spring 3.

Under the slack thread regulator 4.

Up and from right to left through hole in take-up lever 5.

Down through guides 6 and 7 on face plate.

Into guide 8 on needle clamp.

From front to back through eye of needle 9.

Draw about two inches of thread through eye of needle with which to start sewing.

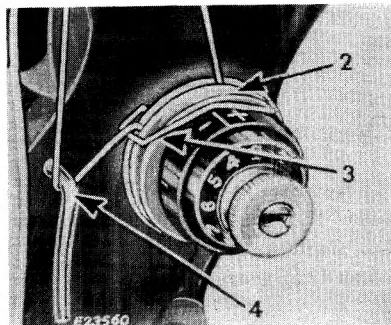


Fig. 4. Upper Threading Around Tension.

9

## UPPER THREADING—TWIN NEEDLES

Raise take-up lever 5 to its highest point. Place a spool of thread on each of the two spool pins. Thread each threading point with one thread at a time in the same manner as for single needle threading with the following exceptions:

Pass one thread between the rear and centre tension discs 2 and the other thread between the centre and front tension discs.

Thread eye of each needle from front to back.

Be sure that threads do not cross over or bind each other. Draw about two inches of thread through eye of each needle with which to start sewing.

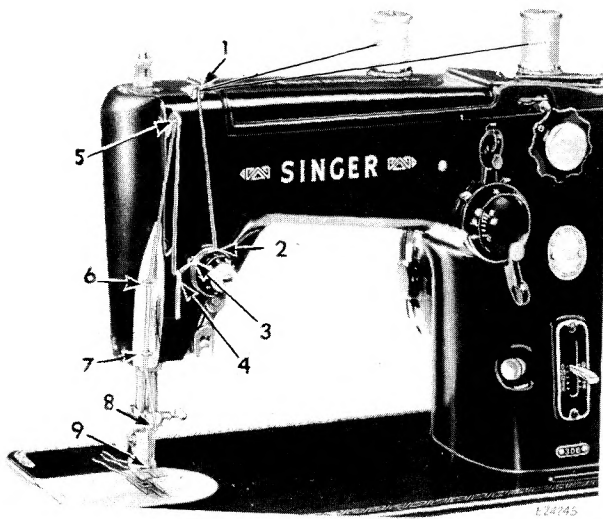


Fig. 5. Upper Threading (Twin Needles).

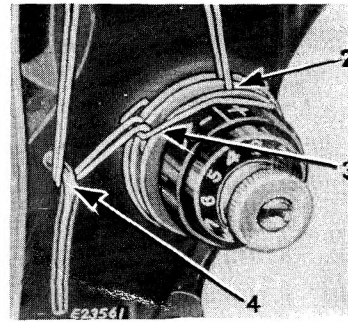


Fig. 6. Upper Threading Around Tension (Twin Needles)

10

## TO REMOVE THE BOBBIN

Raise needle to its highest point.

Tilt machine back on its hinges.

Open latch G, Fig. 7 and lift out bobbin case.

Release latch and remove bobbin.

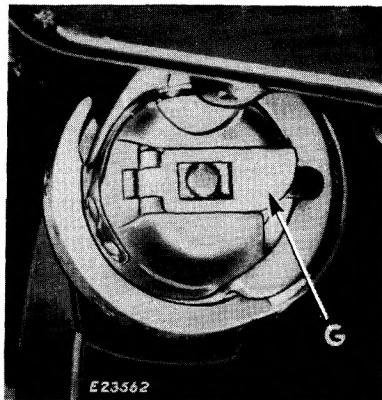


Fig. 7. Removing Bobbin Case.

## TO WIND THE BOBBIN

See Figs. 8 and 9.

Hold hand wheel J with left hand, and with right hand, loosen stop motion screw K to release hand wheel from stitching mechanism. Place bobbin on bobbin winder spindle and turn bobbin until spindle pin enters slot in right side of bobbin.

Lock bobbin in place by pressing bobbin winder against hand wheel until latch H engages.

Place spool of thread on either spool pin.

Draw thread through self-threading guide 2 on arm of machine and pass thread down and from left to right under tension 3 on bed. Lead thread up to bobbin and thread from inside, through slot in left side of bobbin 4.

Hold end of thread as shown in Fig. 9 and operate machine as for sewing. End of thread must be held until it breaks off.

Allow tension discs 3, Fig. 8 to control flow of thread so that it winds on bobbin in uniform level rows. Do not guide or hold thread when winding bobbin.

The bobbin winder will stop automatically when the bobbin is filled. When less than a full bobbin is desired, lift latch H, Fig. 8.

11

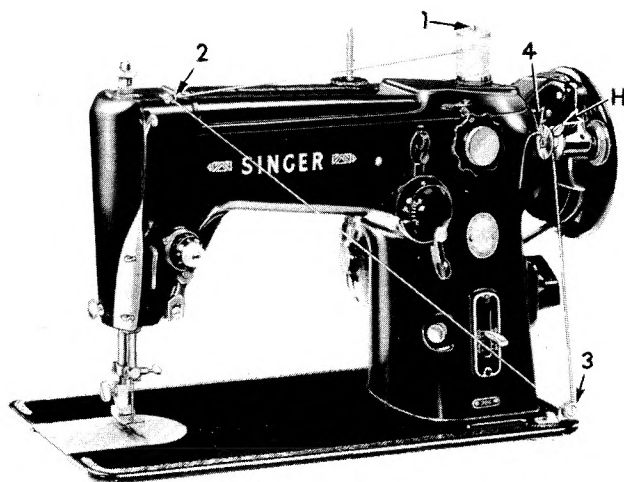


Fig. 8. To Wind the Bobbin.

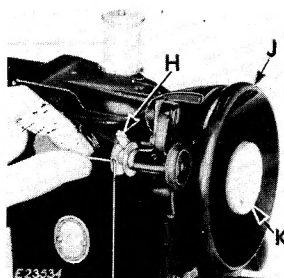


Fig. 9.

Remove bobbin from spindle and retighten screw K, Fig. 9.

**NOTE :** If bobbin does not wind evenly, loosen screw which holds tension bracket 3 in position and move bracket to the left if bobbin winds high on the right ; move bracket to the right

if bobbin winds high on the left. When bracket is properly centred, thread will wind evenly across bobbin. Retighten tension bracket screw.

Bobbin can be wound while machine is sewing.

12

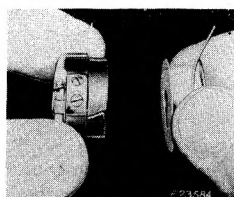


Fig. 10.

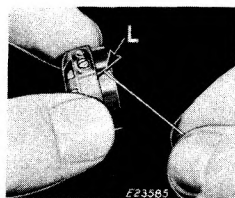


Fig. 11.

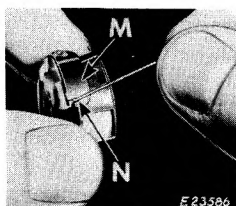


Fig. 12.

#### TO THREAD BOBBIN CASE

Hold bobbin so that thread will unwind in direction shown in Fig. 10.

Hold bobbin case as shown in Fig. 10 and place bobbin into it.

Pull thread into slot L, Fig. 11 under tension spring M, Fig. 12 and into slot N at end of spring. Allow about three inches of thread to hang free from bobbin case.

#### TO REPLACE BOBBIN CASE

Hold bobbin case by latch and replace it on stud X, Fig. 13, having thread draw from top of bobbin case. Release latch and press bobbin case back until latch catches groove near end of stud. Allow about three inches of thread to hang free from bobbin case.

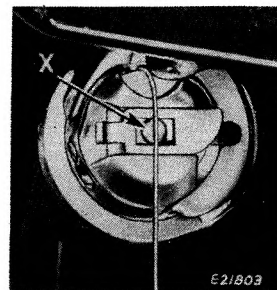


Fig. 13. Bobbin Case Threaded and Replaced.

## TO PREPARE FOR SEWING

This SINGER Class 306 Machine comes equipped with Disc No. 1, ALL-purpose Throat Plate, and ALL-purpose Hinged Presser Foot. The throat plate and presser foot have the same wide opening to accommodate the swing of the needle. With the equipment illustrated below, the machine can perform :

STRAIGHT ... ZIGZAG ... ORNAMENTAL STITCHING

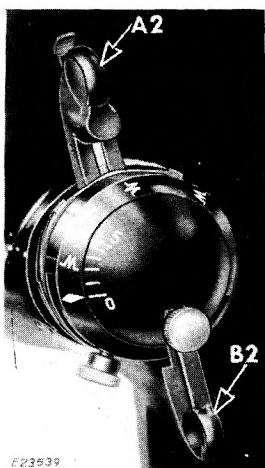
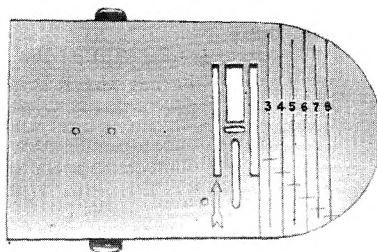


Fig. 14. Bight Control Set for Straight Stitching.

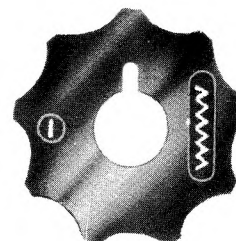
FOR ALL-PURPOSE STITCHING, use



173088 All-purpose Throat Plate.



105250 All-purpose Hinged Presser Foot



Disc No. 1.

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## TO PREPARE FOR SEWING (continued)

Set Needle Position Lever A2 and Bight Control Lever B2 for straight stitching as shown in Fig. 20.

Hold end of needle thread with left hand and turn hand wheel over toward you until needle goes down and up again, and thread take-up lever P, Fig. 17 is at its highest point.

Pull up needle thread and bobbin thread will come with it, as shown in Fig. 15.

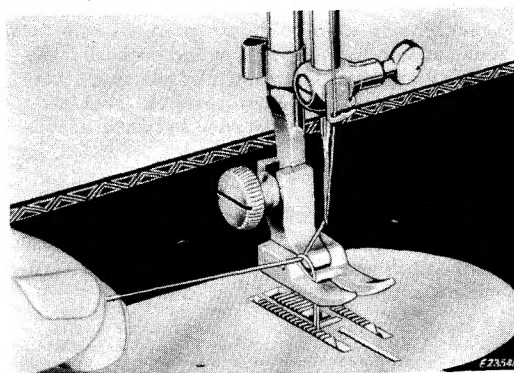


Fig. 15. Drawing Up Bobbin Thread.

Lay both threads back under presser foot diagonally across feed to the right or left depending upon the side of the needle on which material is to be located so that when the presser foot is lowered the threads will be firmly held between the feed and the presser foot.

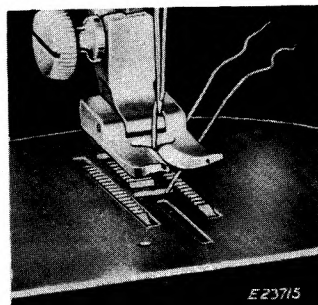


Fig. 16. Threads in Position to Start Sewing.

15

## TO START SEWING

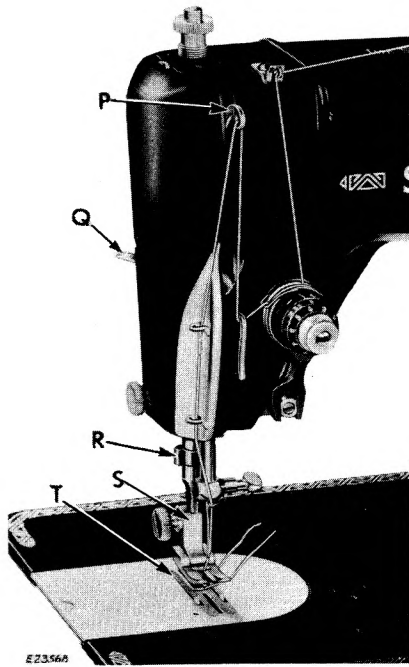


Fig. 17.

Be sure to have take-up lever **P** at its highest point.

Adjust Needle Position Lever (see Page 18) and Bight Control Lever (see Page 19) to the desired setting.

For zigzag stitching, turn hand wheel over toward you until needle is ready for its extreme left stroke at left needle position; or its extreme right stroke at right needle position.

Place the material beneath the presser foot **S**, position needle in fabric, lower the foot. Hold threads which have been drawn to back and right under the foot. Commence sewing.

Most materials require only guiding for best sewing results.

However, the miracle fabrics, such as nylons and similar materials, blends with various rayons, puffed weaves, sheers, jerseys and tricots, which, by their nature, require light pressure, also require support in the form of holding the material taut at the back and front of the needle as the needle enters the fabric. This support assures a smooth even seam. Never pull the material when sewing.

Never operate machine without cloth under presser foot.

## TO REMOVE THE WORK

Stop machine with thread take-up lever, **P**, Fig. 17 at its highest point. Raise presser foot **S**, draw fabric back and to left and sever threads on thread cutter **R**. Place ends of threads under presser foot diagonally across feed **T** as shown in Fig. 17.

## TO REGULATE LENGTH OF STITCH

The machine is adjustable to make from 6 to 28 straight stitches per inch as indicated by the numerals on the left of the stitch indicator scale. When zigzag stitching, the stitch regulator controls the lengthwise distance between needle penetrations.

The top of the stitch regulator lever **J3** is the index for setting stitch lengths.

To lengthen stitch, loosen limit screw **K3** enough to allow stitch regulator lever **J3** to be lowered just below number desired.

Turn limit screw **K3** until top of stitch lever **J3** rises to setting desired.

The use of the limit screw **K3** is especially desirable in obtaining fine stitch adjustments between 25 and 0 for such work as har tacking or satin stitching.

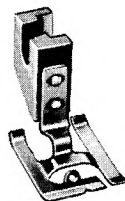
Numbers on the stitch regulator scale are relative and enable the operator to restore any previous stitch setting.

## TO REGULATE STITCH LENGTH FOR SATIN STITCHING

Satin stitching is done with stitch regulator lever **J3** set between 25 and 0 position.

While stitching on a scrap of material carefully and slowly turn limit screw **K3** until stitches are packed closely together, allowing material to feed smoothly and evenly without irregularity.

Special Purpose Presser Foot 161455 provides a channel for satin stitching and gives smooth uniform results.



161455  
Special Purpose  
Presser Foot.

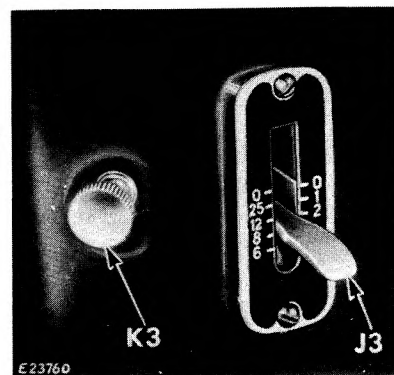


Fig. 18. Regulating Length of Stitch.



## NEEDLE POSITION CONTROL

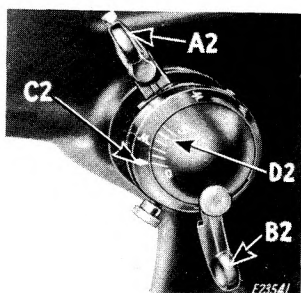


Fig. 19. Left Needle Position.

When Needle Position Lever A2 is set to the left on the dial, as shown in Fig. 19, the machine sews at the extreme left for straight stitching and, as the high is changed from 0 to 5, the needle swings from the extreme left, as shown in Fig. 19A for zigzag stitching.

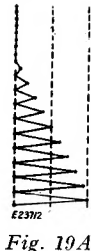


Fig. 19A

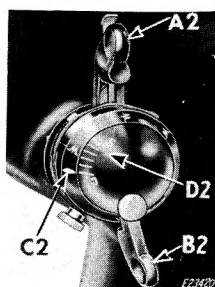


Fig. 20. Central Needle Position.

When Needle Position Lever A2 is set at the central position, as shown in Fig. 20, the needle swings equally to the left and right of centre, as shown in Fig. 20A.

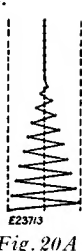


Fig. 20A

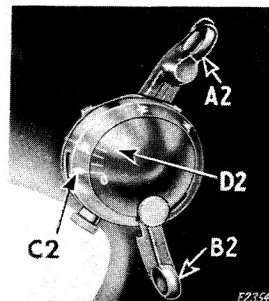


Fig. 21. Right Needle Position.

When Needle Position Lever A2 is set to the right on the dial, as shown in Fig. 21, the needle swings from the extreme right, as shown in Fig. 21A.

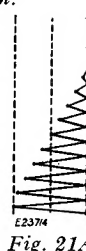


Fig. 21A

**CAUTION :** Left Needle Position and Right Needle Position are used only with the All-purpose Throat Plate, for straight stitching as well as zigzag stitching.

Raise needle out of fabric before changing positions of Bight Control and Needle Position Levers.

## BIGHT CONTROL

**STRAIGHT STITCHING** can be made in any of the three needle positions described on Page 18 and with any Disc when Bight Lever B2 is set at "0." It is recommended that the Bight Lever B2 be locked in position with the **MAXIMUM BIGHT STOP SCREW F2**, by loosening, then retightening it. Loosen and move **INTERMEDIATE BIGHT REGULATOR SCREW E2** until it engages the notch, then retighten it.

**ZIGZAG STITCHING.** The Bight or "swing of the needle" refers to the width of zigzag movement of the needle when stitching with Disc No. 1.

**BIGHT LEVER B2** regulates the width of zigzag stitch or stitch pattern.

**BIGHT SCALE** is marked "0" to "5." Each line between "0" and "5" denotes the width of stitch pattern obtainable up to a maximum of approximately  $\frac{1}{8}$  inch.

**BIGHT INDICATOR.** Arrow C2 is the mark to which the desired point on the bight scale is set.

**ZERO BIGHT** is synonymous with straight stitching.

**MAXIMUM BIGHT.** The machine will sew the maximum width of stitch or stitch pattern when Bight Lever is set at "5," approximately  $\frac{1}{8}$  inch.

**MAXIMUM BIGHT STOP SCREW F2** restricts the movement of the Bight Lever to a maximum width of stitch of "5" or less when set at a given position.

**CAUTION :** When Straight Stitching Throat Plate 173090 is used, Bight Lever B2 must be set at 0, and needle must be set at Central Position.

Do not make any zigzag stitch or needle position adjustments while needle is in goods when the machine is not in operation.

**INTERMEDIATE BIGHT REGULATOR SCREW E2** acts as an intermediate spring stop for a desired minimum bight. This spring-stop can be passed over to zero bight if desired.

These stops allow you to operate the Bight Lever manually between set positions without continual reference to the dial while sewing. For example: To limit zigzag stitching between "1" and "4," set Bight Lever at "4," loosen **MAXIMUM BIGHT LEVER STOP SCREW F2**, then tighten. To set minimum position "1," set Bight Lever so that arrow C2 is at "1," loosen **INTERMEDIATE BIGHT REGULATOR SCREW E2** and move it up or down until you feel the notch engaged, then tighten screw E2. The Bight Lever is now set to limit the maximum bight at "4" and the minimum at "1." Other limits such as "1" and "3" or "2" and "3" can be obtained in the same manner.

When free movement of the Bight Lever is desired between zero and a given bight, screw E2 should be moved down as far as it will go and then securely tightened. Screw F2 is used to limit the maximum bight.

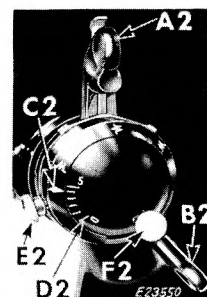


Fig. 22. Bight Control Dial.

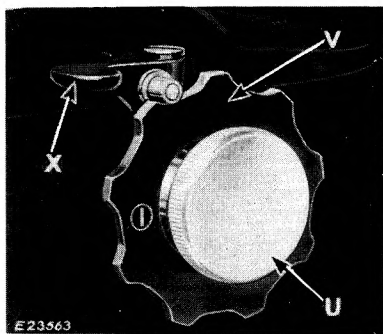


Fig. 23. Removing Disc from Machine.

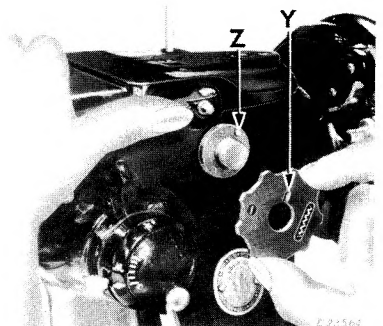


Fig. 24. Replacing Disc on Machine.

## TO CHANGE DISC.

Raise needle out of material.

Set Needle Position Lever at central position.

Set Bight Lever at "0."

Remove knurled nut U.

Grasp edges of Disc V and draw it off shaft.

Lift lever X with left thumb while placing new Disc on shaft so that pin Z engages at slot Y.

Replace nut U and tighten securely. To avoid variation in stitching, Disc must be held firmly.


Set Bight and Needle Position Levers to desired settings and proceed as for regular sewing.

**CAUTION.** Always operate machine with disc even when doing straight sewing.


20

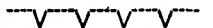
## AUTOMATIC STITCHING

All of these discs do straight stitching when the Bight Lever B2, Figs. 19 to 22 is set at "0."

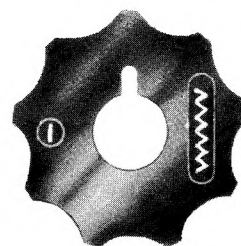
Zigzag Disc No. 1  makes a uniform zigzag stitch in all widths up to approximately  $\frac{1}{8}$  inch. This Disc is recommended for making buttonholes, sewing buttons, reinforcing seams, making hairline seams, cording seams, making invisible seams in lace, appliquéing, satin stitching scallops, script stitching and wherever uniform zigzag stitching is desirable.

Decorative stitch patterns are produced with Disc No. 1 by varying one or more of the control levers, namely, needle position, bight and stitch.

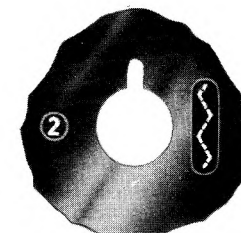
Multiple Stitch Zigzag Disc No. 2  makes a three-stitch zigzag particularly suitable for reinforcing, patching and mending, as well as for decorative applications. This Disc is especially adaptable for use in joining the overlapped seams of interfacings and interlinings, joining seams where there is both lengthwise and crosswise elasticity, and applying bindings to blankets.

Blind Stitch Disc No. 3  produces a straight line of four stitches followed by a single zigzag stitch to the left. The depth of the sideward movement of the needle is regulated by the bight lever. The resulting adjustable blind stitch is ideal for hems, facings and zippers. When the lever is set for a wide bight, this stitch is appropriate for overedging seam, hem and facing edges to prevent fraying.

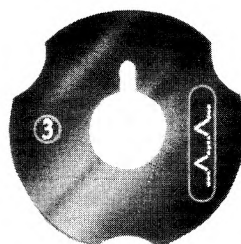
21



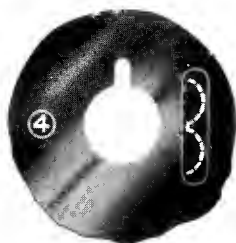
Zigzag Disc No. 1.



Multiple Stitch Zigzag Disc No. 2.



Blind Stitch Disc No. 3.




Scallop  
Disc No. 4.





Arrowhead  
Disc No. 5.



Domino  
Disc No. 6.

Scallop Disc No. 4  accurately stitches scallops while the fabric moves in a straight line under the presser foot. A single stitch separates each scallop allowing space for cutting and turning when used as an edge finish or a tuck. The length of the scallop is varied by changing the length of stitch—the width of the scallop, by varying the Bight.

Arrowhead Disc No. 5  controls the formation of the arrowhead stitch pattern automatically. This decorative design is reduced in width by reducing the bight setting. The stitches are packed closely together when an almost 0 stitch length is used, and are separated when a longer stitch is used. As a border design or as part of a motif or monogram, the arrowhead design is classic and appealing.

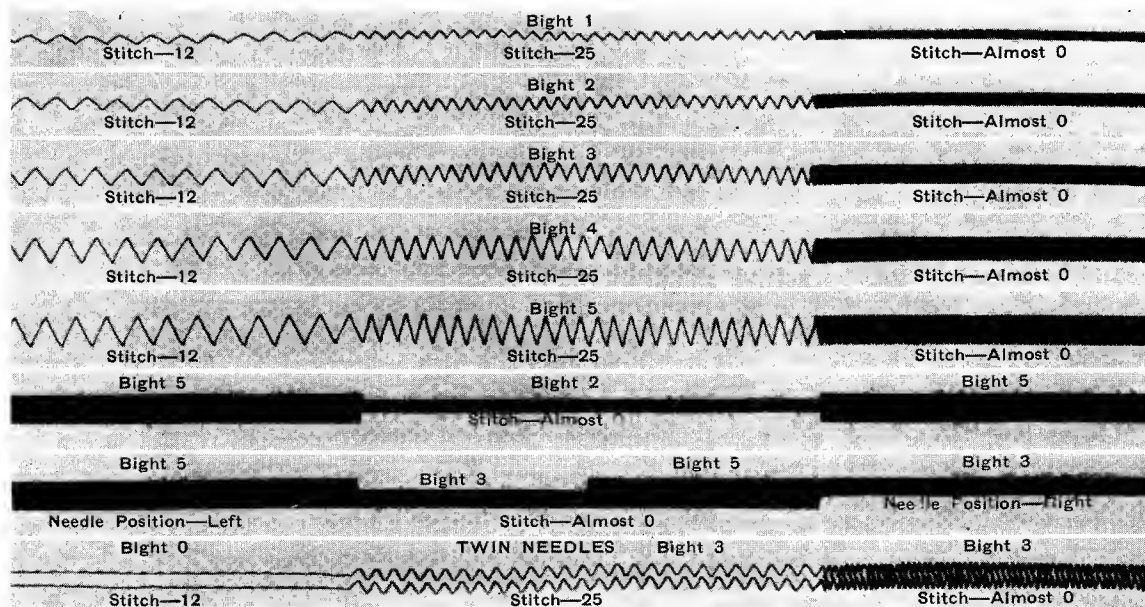
Domino Disc No. 6  automatically forms a decorative stitch pattern attractive in border designs, monograms, motifs and pockets—effective when applied to linens, children's dresses, blouses and play clothes. The design can be varied in width by the Bight Control, and in spacing by the stitch length. Twin needle stitching is particularly attractive and affords the use of threads of two colours.

Discs 1, 2, 3, 4 and 6 produce the same stitch pattern whether numbered side of Disc is toward or away from the machine. However, Disc No. 5 forms the wide portion of the arrowhead first when disc is placed numbered side away from machine, and point or narrow portion of arrowhead first when disc is reversed. Stitch on a scrap of material until that point in the design is reached that is to be reproduced on the work. Then place work under needle at the exact point where design is to be made. This procedure is desirable when using the scallop and arrowhead discs, but often is used in precise stitching with the multiple stitch, blind stitch and domino discs.

Additional discs, which produce a variety of stitch patterns other than those produced by the six basic discs furnished with the machine, may be purchased at your local SINGER SEWING CENTRE.

### DESIGNS MADE WITH ZIGZAG DISC No. 1.

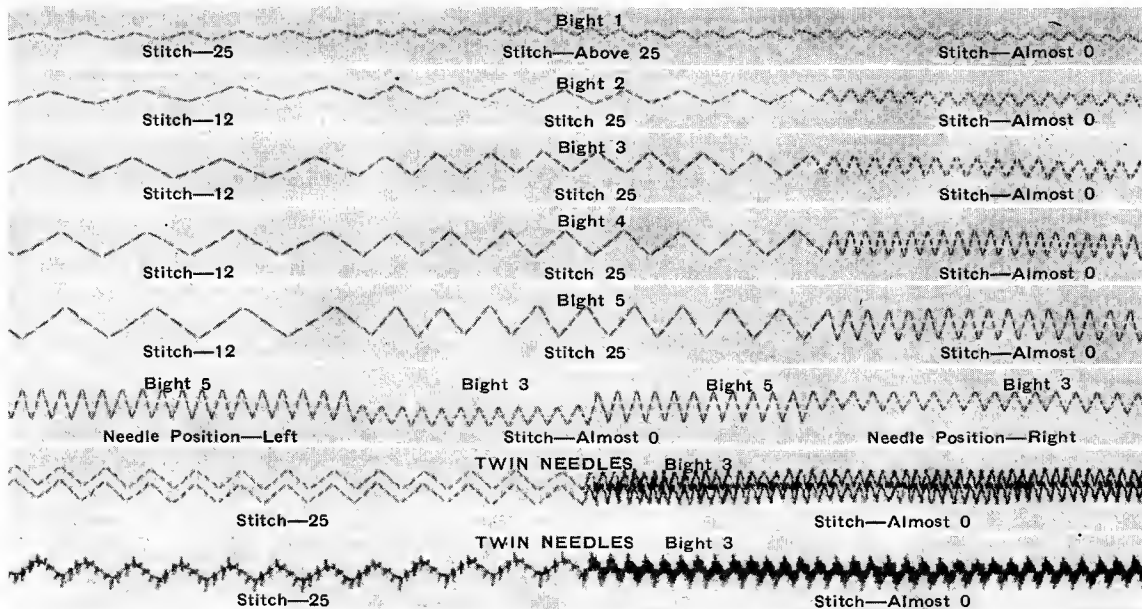
By changing Bight, Length of Stitch and Needle Position, as indicated. (Direction of Stitching, left to right)



Loosen needle thread tension slightly with each increase in Bight above 2 and with each decrease in stitch length. Special Purpose Presser Foot (161455) should be used with stitch length of almost 0. Central Needle Position is used except when otherwise indicated.

## DESIGNS MADE WITH MULTIPLE STITCH ZIGZAG DISC No. 2

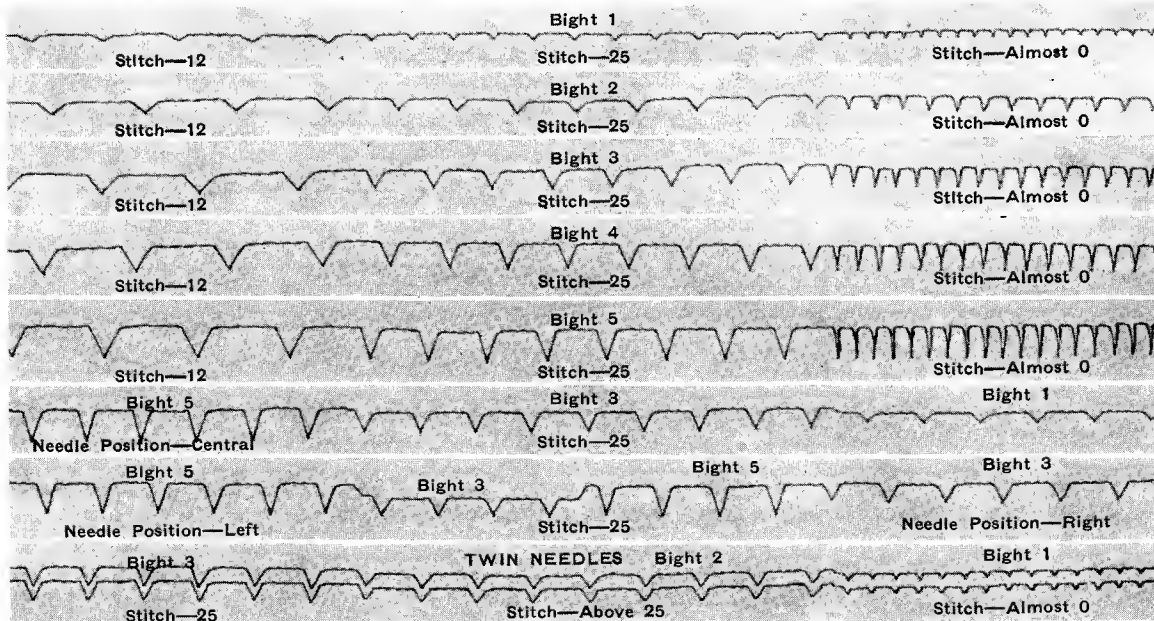
By changing Bight, Length of Stitch and Needle Position, as indicated. (Direction of Stitching, left to right)



For bottom row of twin needle stitching, garment is stitched right side down.  
Loosen needle thread tension slightly for twin needle stitching.  
Central Needle Position is used unless otherwise indicated.  
All-purpose Presser Foot (105250) should be used.

## DESIGNS MADE WITH BLIND STITCH DISC No. 3

By changing Bight, Length of Stitch and Needle Position, as indicated. (Direction of Stitching, left to right)

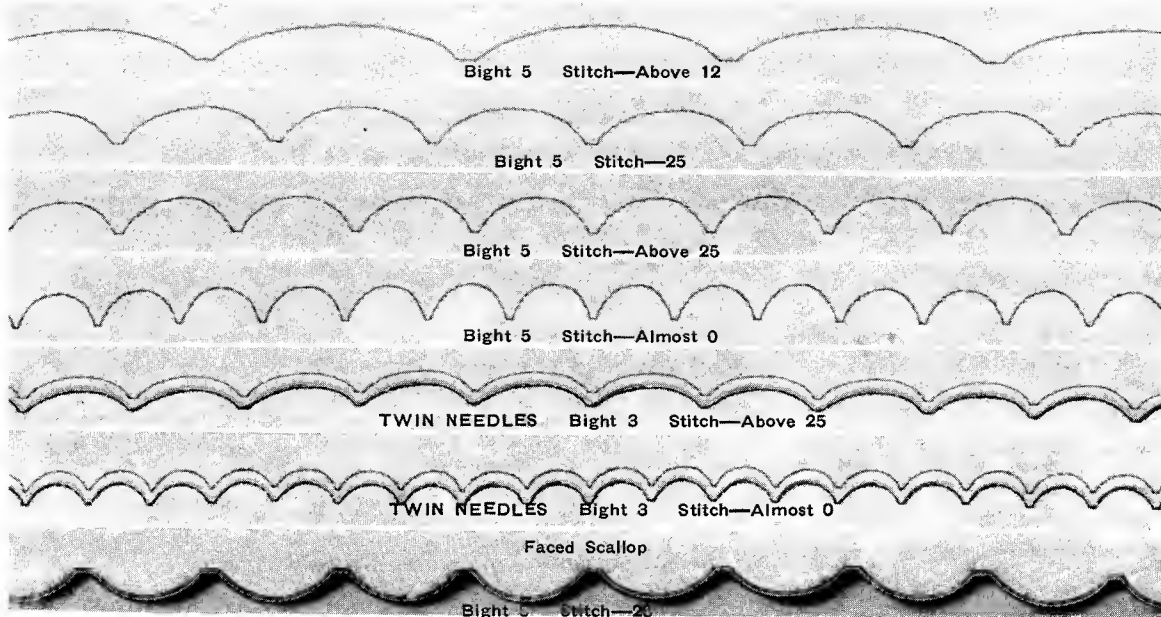


Loosen needle thread tension slightly with increase in bight above 2.  
Central needle position is used unless otherwise indicated.  
All-purpose Presser Foot (105250) should be used.

## DESIGNS MADE WITH SCALLOP DISC No. 4.

By changing Bight and Length of Stitch, as indicated.

(Direction of Stitching, left to right)



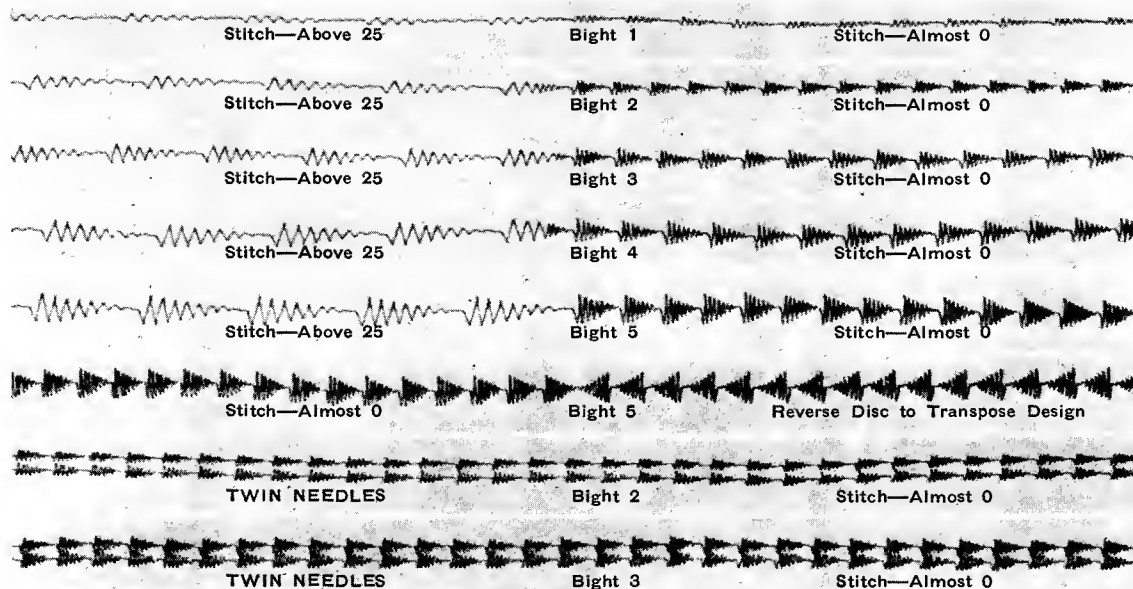
Central Needle Position should be used unless otherwise indicated.  
All-purpose Presser Foot (105250) should be used.

26

## DESIGNS MADE WITH ARROWHEAD DISC No. 5.

By changing Bight and Length of Stitch, as indicated.

(Direction of Stitching, left to right)



Loosen needle thread tension slightly with each increase of Bight above 2 and with each decrease in stitch length.  
Special Purpose Presser Foot (161455) is used with stitch length of almost 0.  
Central Needle Position is used unless otherwise indicated.

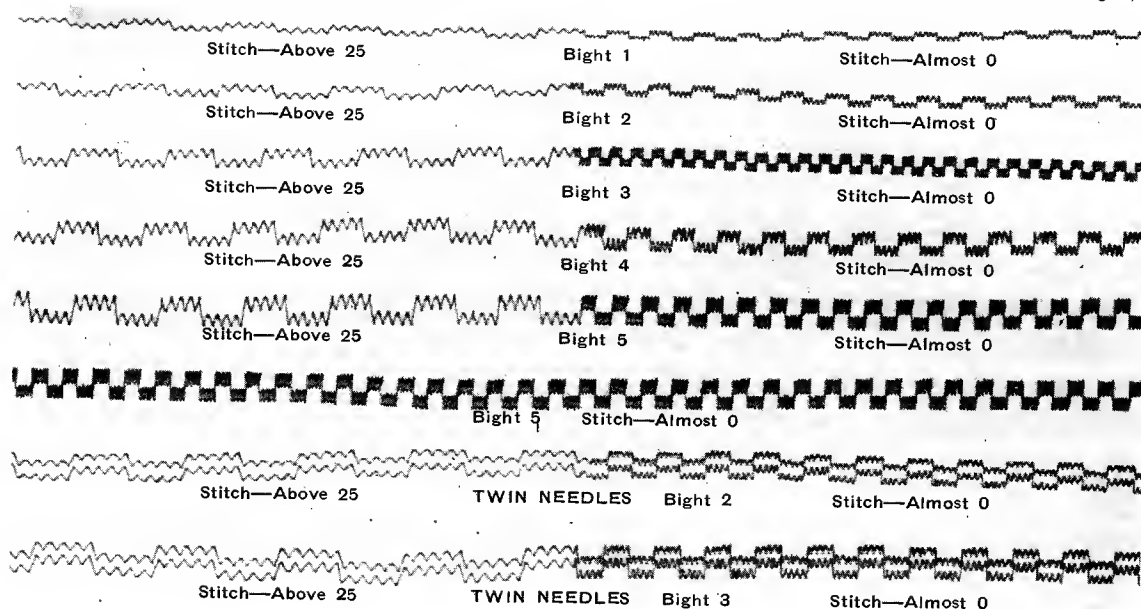
27



## DESIGNS MADE WITH DOMINO DISC No. 6

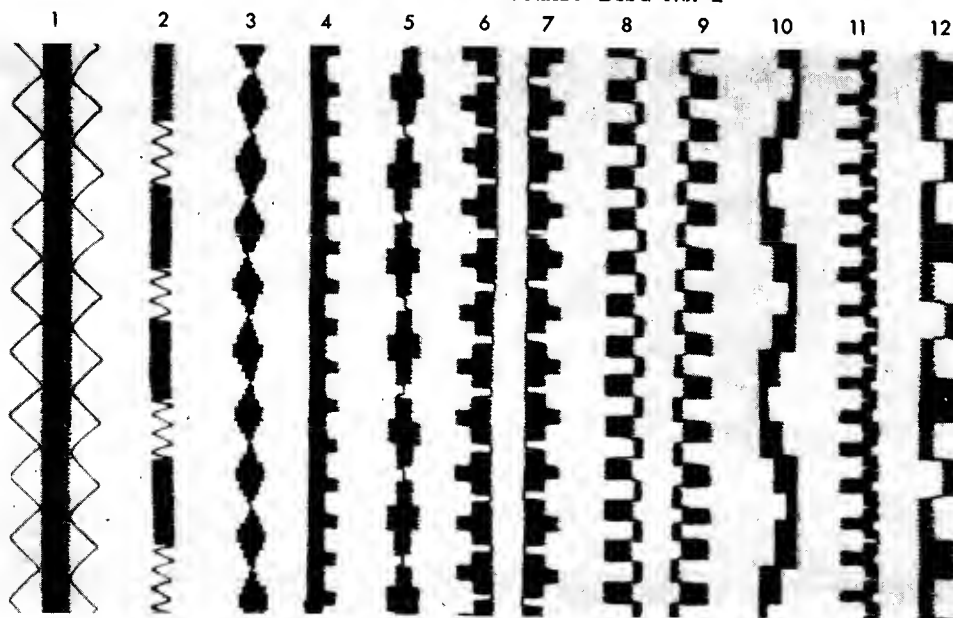
By changing Bight and Length of Stitch, as indicated.

(Direction of Stitching, left to right)



Loosen needle thread tension slightly with each increase of Bight above 2 and with each decrease in stitch length.  
Special Purpose Presser Foot (161455) should be used with stitch length of almost 0.  
Central Needle Position is used unless otherwise indicated.

## DESIGNS MADE BY VARIATION OF NEEDLE POSITION AND BIGHT WITH ZIGZAG DISC No. 1



Special Purpose Presser Foot (161455) should be used with stitch length of "almost 0."  
Crisp lawn, organdie, or tarlatan backing is used if material gathers  
on single thickness.

## KEY TO STITCHES SHOWN ON PRECEDING PAGE

PATTERN	NEEDLE POSITION	BIGHT SETTING	STITCH LENGTHS	TENSION	VARIATION OF NEEDLE POSITION AND BIGHT	SETTING OF BIGHT LIMIT SCREWS—REFER TO FIG. 22
1	Central	5	Bar—Almost 0 Zigzag—6	Needle Thread— Very light for bar, Medium for zigzag line Bobbin Thread—Medium	Stitch bar then zigzag lines separately	F2 at 5 E2, below 0
2	Central	3	25 Alternating with Almost 0	Needle Thread—Very light Bobbin Thread—Medium	At 25—6 stitches At almost 0—40 stitches	F2 at 3 E2, below 0
3	Central	0 to 5 to 0	Almost 0	Needle Thread—Light Bobbin Thread—Medium	2 stitches at each mark to 5 2 stitches at each to 0	F2 at 5 E2, below 0
4	Left	3-5	Almost 0	Needle Thread—Light Bobbin Thread—Medium	At 3—16 stitches At 5— 8 stitches	F2 at 5 E2 at 3
5	Central	0-3-5-3	Almost 0	Needle Thread—Very light Bobbin Thread—Medium	14 stitches at each bight setting	F2 at 5 E2 at 3
6	Right	0-3-5-3	Almost 0	Needle Thread—Very light Bobbin Thread—Medium	8 stitches at each bight setting	F2 at 5 E2 at 3
7	Left	0-3-5-3	Almost 0	Needle Thread—Very light Bobbin Thread—Medium	8 stitches at each bight setting	F2 at 5 E2 at 3
8	Left Alternating with Right	4 Alternating with 1	Almost 0	Needle Thread—Light Bobbin Thread—Medium	14 stitches at each setting Bight 4 at left needle position Bight 1 at right needle position	F2 at 4 E2 at 1
9	Right Alternating with Left	4 Alternating with 1	Almost 0	Needle Thread—Light Bobbin Thread—Medium	14 stitches at each setting Bight 4 at right needle position Bight 1 at left needle position	F2 at 4 E2 at 1
10	Left Alternating with Right	4-1-4	Almost 0	Needle Thread—Light Bobbin Thread—Medium	20 stitches at each setting Bight 4, 1 and 4 left needle position Bight 4, 1 and 4 right needle position	F2 at 4 E2 at 1
11	Left Alternating with Right	4 Alternating with 2-0-2	Almost 0	Needle Thread—Light Bobbin Thread—Medium	6 stitches at each setting Bight 4 at left needle position Bight 2, 0 and 2 right needle position	F2 at 4 E2 at 2
12	Left Alternating with Right	2-5-2 Alternating with 2	Almost 0	Needle Thread—Light Bobbin Thread—Medium	16 stitches at each setting Bight 2, 5 and 2 at left needle position Bight 2 at right needle position	F2 at 5 E2 at 2

0 Bight = Zero Bight      2 Bight = Medium Bight      5 Bight = Maximum Bight

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## TO REGULATE PRESSURE ON PRESSER FOOT

The surface finish on fabrics, as well as their weight, determines amount of pressure to be applied. The glazed surface of chintzes and polished cotton, the loose nap surface of satin, the deep piled surface of velvet, the delicate and broken surface of lace and brocade, all require a lighter pressure.

To set a light pressure, turn thumb screw G2, Fig. 25 upward until fabric moves easily under presser foot without slipping and without showing feed marks. Heavy, spongy fabrics like towelling, chenilles, coatings, etc., require heavier pressure.

To set a heavy pressure, turn thumb screw G2 downward until the fabric moves easily and the seam edges are carried evenly by the foot and the feed.

The pressure should be heavy enough to prevent side creepage of material and to obtain uniform stitch length, yet light enough to carry the material without marking.

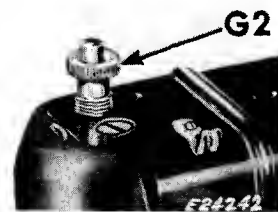


Fig. 25. Thumb Screw for Regulating Pressure on Presser Foot.

## THREAD TENSIONS FOR STRAIGHT STITCHING

For perfect stitching, the tension on needle and bobbin threads must be heavy enough to pull threads to centre of material and make a firm stitch as shown in **Fig. 26**.

In the unbalanced tensions of **Fig. 27**, the needle thread lies straight along top side of material, caused by too heavy tension on needle thread or too light tension on bobbin thread.

In the unbalanced tensions of **Fig. 28**, the bobbin thread lies straight along under side of material, caused by too light tension on needle thread or too heavy tension on bobbin thread.



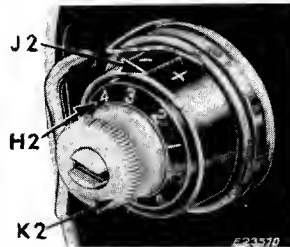
*Fig. 26. Perfect  
Straight Stitching.*



*Fig. 27. Imperfect  
Straight Stitching.*



*Fig. 28. Imperfect  
Straight Stitching.*



*Fig. 29. Needle Thread Tension.*  
32

## TO REGULATE NEEDLE THREAD TENSION

The tension on needle thread can be tested **only** when presser foot is down.

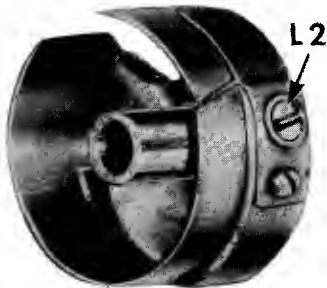
The numerals "0" to "9" on dial **H2**, **Fig. 29**, indicate different degrees of tension that can be obtained. The numbers do not denote a particular size of thread.

When tension has been correctly set for average sewing, note number at indicator line **J2**. This setting may be quickly regained should the tension be altered for special work or change in size of thread.

To increase tension, turn thumb nut **K2** gradually to right (clockwise) until required tension is obtained. Each higher number denotes increased tension.

To decrease tension, turn thumb nut **K2** gradually to left (counter-clockwise) until required tension is obtained. Each lower number denotes less tension.

The tension indicator **J2** is marked with the signs + and —, which indicate the direction in which to turn the thumb nut for more or less tension.



*Fig. 30. Bobbin  
Thread Tension.*

## TO REGULATE BOBBIN THREAD TENSION

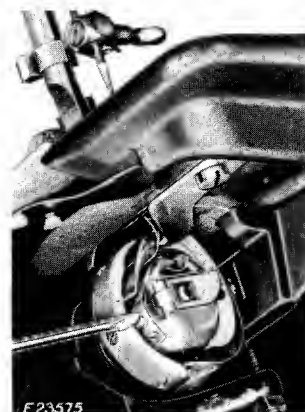
The tension on bobbin thread is regulated by the larger screw **L2**, **Fig. 30** which is nearest centre of tension spring on outside of the bobbin case.

To increase tension, turn screw **L2** gradually over to the right.

To decrease tension, turn screw **L2** gradually over to the left.

## TO REGULATE BOBBIN THREAD TENSION WITHOUT REMOVING BOBBIN CASE FROM MACHINE

The thread tension screw is conveniently adjusted while bobbin case remains in machine. To adjust, raise take-up lever almost to its highest point, tilt machine back on its hinges and turn the large screw on the bobbin case as shown in **Fig. 31**. Turn screw gradually over from operator to loosen tension and over toward operator to tighten tension.



*Fig. 31.*



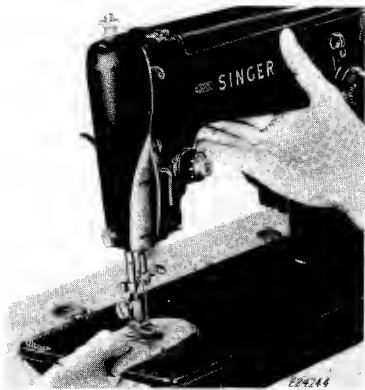


Fig. 32. Changing the Throat Plate.

## TO CHANGE THE THROAT PLATE

When changing from All-purpose Throat Plate to Straight Stitching Throat Plate or Embroidery Plate, **FIRST** raise take-up lever to its highest point, set the Needle Position Lever at its Central Position and set Bight Lever at "0." Tilt the machine head slightly with right hand, as illustrated in Fig. 32.

With the left hand tilt the rounded end of throat plate by pressing it up from the underside enough to clear the feed dog. Then slide the plate to the left.

To Insert the Throat Plate, slip both ends of its spring beneath the edges of the opening, and, while it is slightly tilted, slide it over the feed dog, into position. Lower the machine head into place.

## SEWING SUGGESTIONS

**Breaking of needles might be caused by :**

1. Wrong size of needle for thread and material—see Page 6.
2. Wrong throat plate or presser foot for the type of work being done—see Pages 39 to 41.
3. Wrong setting of needle position lever and/or bight lever—see Pages 18 and 19.
4. Pulling of material when stitching—see Page 16.
5. Loosely fastened presser foot or special fittings.
6. Wrong class of needle—see Page 6.

**Breaking of needle thread might be caused by :**

1. A knot in thread.
2. Thread too coarse for needle—see Page 6.
3. Wrong threading—see Pages 9 and 10.
4. Upper tension too tight—see Page 32.
5. Needle blunt or bent.
6. Needle set incorrectly—see Pages 7 and 8.
7. Roughened hole in throat plate.
8. Wrong arrangement of threads when starting to sew—see Page 15.
9. Needle thread tension too light.

**Breaking of bobbin thread might be caused by :**

1. Wrong threading of bobbin case—see Page 13.
2. Bobbin thread tension too tight—see Pages 32 and 33.

3. Bent Bobbin.

4. Damaged Bobbin Case.

**Skipping of stitches might be caused by :**

1. Wrong setting of needle—see Pages 7 and 8.
2. Needle blunt or bent.
3. Needle too small for thread—see Page 6.
4. Damaged presser foot.
5. Damaged throat plate.

**Looped Stitching might be caused by :**

1. Wrong threading—see Pages 9 and 10.
2. Tensions set incorrectly—see Pages 32 and 33.
3. Needle too fine for thread used.
4. Improper presser foot.

**Gathering or puckering of material might be caused by :**

1. Failure to use paper or tarlatan backing when zigzag stitching with a very wide bight and/or on sheer materials.
2. Excessive needle and bobbin thread tensions.
3. Improper presser foot.

If machine runs heavily after standing idle for a long period, apply a few drops of paraffin at all oiling points, run the machine for a few minutes, then wipe clean and apply SINGER\* oil as described on Pages 36 to 38.

*If the suggestions offered here do not correct your sewing problems, call at your local SINGER SEWING CENTRE.*

## TO OIL THE MACHINE

### Preparation

Remove face plate and throat plate and swing back cover plate toward hand wheel.  
Remove dust and lint with brush except from sewing hook. Wipe hook free of lint with cloth or remove with hand vacuum cleaner.

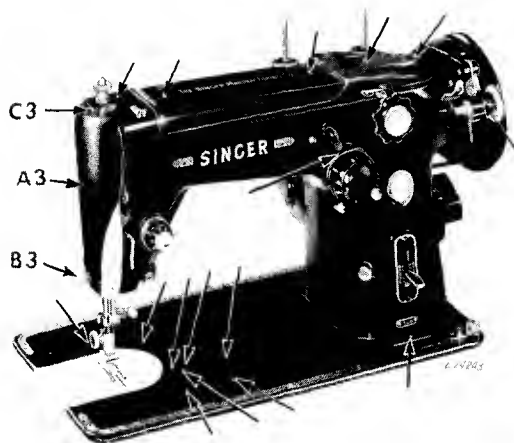


Fig. 33. Front View,  
Showing Oiling Points.

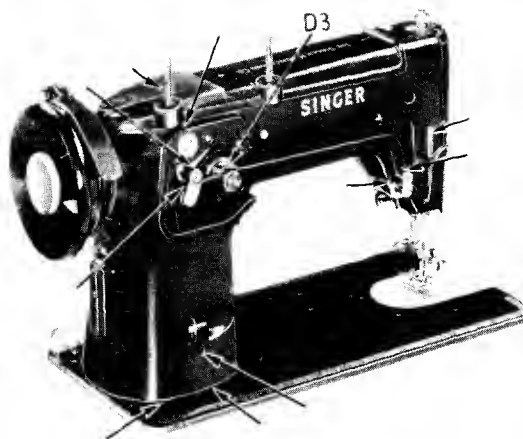


Fig. 34. Rear View,  
Showing Oiling Points.

### OILING

Apply a drop of oil to all points indicated by the unlettered arrows in Figs. 33, 34, 35, 36 and 37. Apply a small amount of SINGER Lubricant for Electric Motors to the slide block at D3, Fig. 34.

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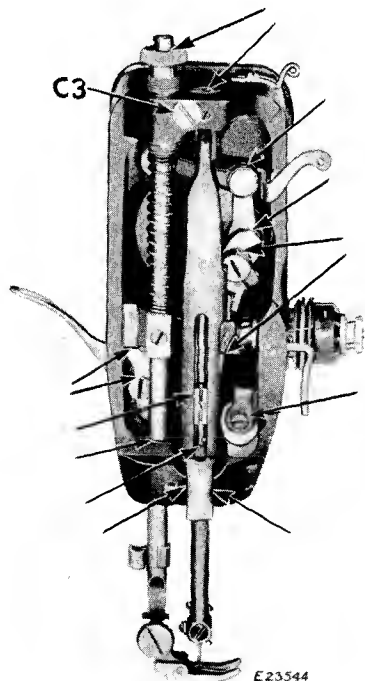


Fig. 35. Face Plate Removed,  
Showing Oiling Points.

Remove face plate A3, Fig. 33 by taking out thumb screw B3 and slipping plate up and off screw at C3. Oil the points indicated in Fig. 35 and then replace plate A3.

Apply a drop of oil to race of bobbin case holder as shown in Fig. 36.

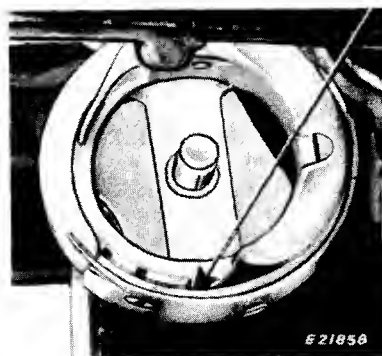
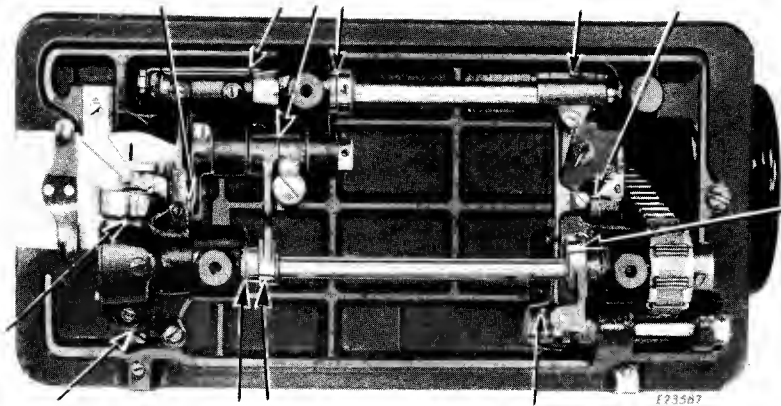


Fig. 36. Oiling Point in Bobbin  
Case Holder.

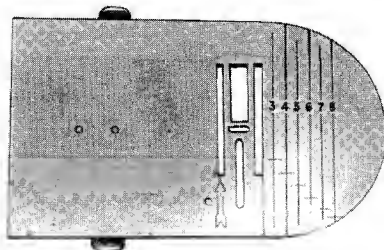
37



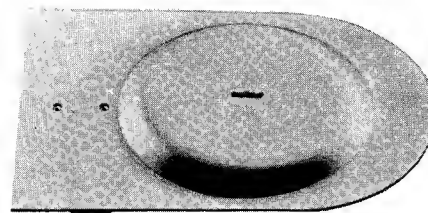
Turn the machine back on its hinges and oil the places shown in **Fig. 37**.

*Fig. 37. Oiling Points in Bed of Machine.*

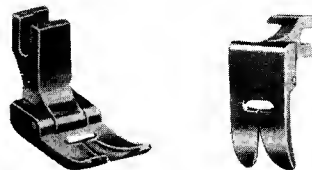
## ALL-PURPOSE STITCHING EQUIPMENT



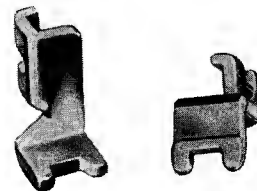
*173088 All-purpose Throat Plate.*



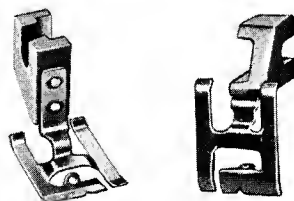
*189632 Embroidery Plate.*



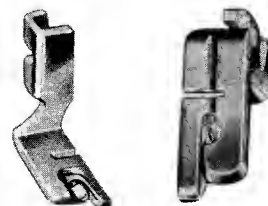
*105250 All-purpose Hinged Presser Foot.*



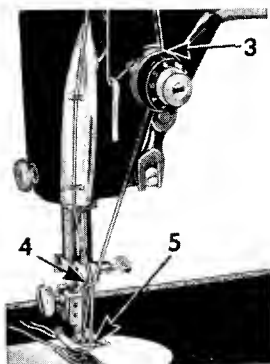
*189648 Button-Sewing Foot.*



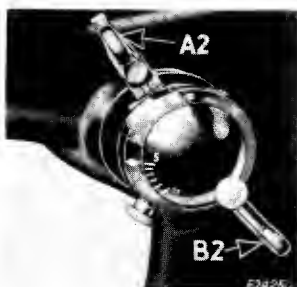
*161455 Special Purpose Presser Foot.*



*189653 Shell Hemmer.*



*Threading—Covering Cord with Special Purpose Presser Foot.*



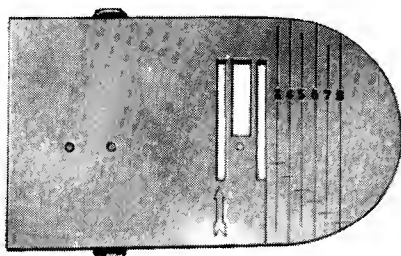
When covering cord with Special Purpose Presser Foot, place spool on spool pin 1. Pass cord through guide 2, into right side of tension discs 3, through needle clamp thread guide 4, and from front to back through eyelet 5 in cross piece of foot.

**NOTE :** With the equipment on this page and on Page 39, the full range of stitching variations may be attained. The settings for these stitch variations are attainable by moving the Needle Position and Bight Levers A2 and B2 to any point required.

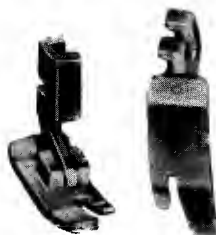
*Fig. 38. Machine Set for Maximum Zigzag Stitch in Left Position.*

40

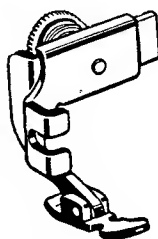
## STRAIGHT STITCHING EQUIPMENT



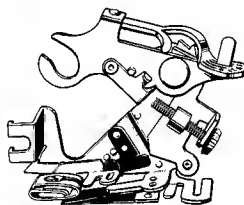
*173090 Straight Stitching Throat Plate*



*105248 Straight Stitching Presser Foot.*



*161127 Adjustable Cording Foot.*



*86742 Ruffler.*



*Fig. 39. Machine Set for Straight Stitching.*

**CAUTION :** All of the parts shown on this page are designed for straight stitching only. They must not be used for zigzag stitching. Use only AFTER Needle Position Lever A2 is set at central position, and Bight Lever B2 is set at "0," as shown in Fig. 39.

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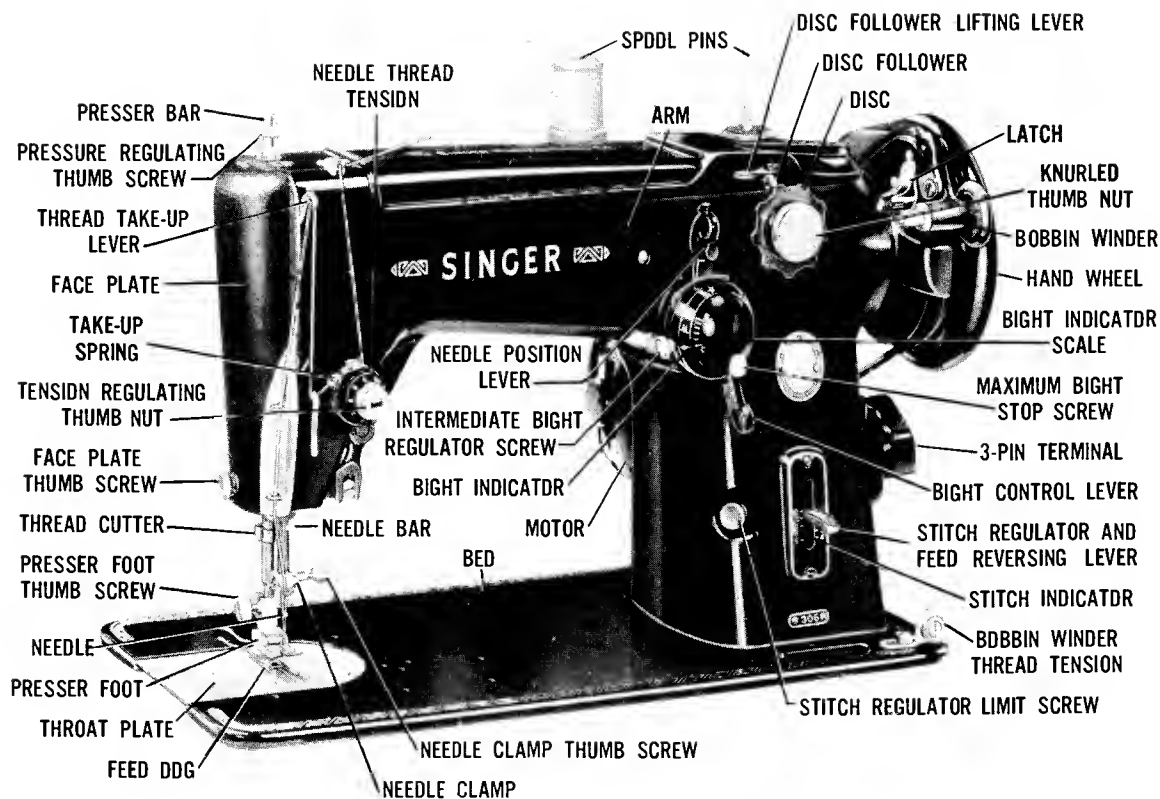


Fig. 40. Names of Principal Parts of Machine 306K25.

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## APPLICATION OF SINGER AUTOMATIC TO CONSTRUCTION OF GARMENTS AND FURNISHINGS

### STRAIGHT STITCHING

Straight stitching is accomplished with all of the discs when the hight is set at zero.

Central needle position is used for straight stitching except in the unusual situation when it is desirable to alter the location of the needle in relationship to the centre of the presser foot.

The All-purpose Presser Foot and All-purpose Throat Plate are generally used for both zigzag stitching and straight stitching.

The Straight Stitching Presser Foot and Straight Stitching Throat Plate are designed to accommodate delicate, soft fabrics, sheers,

crepe weaves and all fabrics where the weave or finish causes the fabric to cling to the needle, either on its upward or downward stroke. The Straight Stitching Throat Plate is always used when free hand straight stitching work is done where the presser foot is removed and the fabric is held in hoops, as described on Page 94.

The Straight Stitching Presser Foot is often more convenient for following the edge of a lapped seam, the fold of a pleat or when placing an edgestitching on a yoke or collar. The narrow right toe affords an excellent view at the right of the needle for such work.

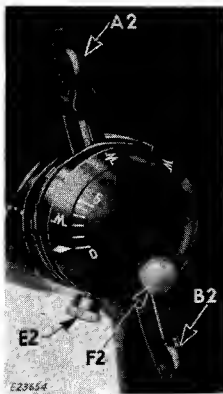


Fig. 41. Machine Set for Straight Stitching with Limit Screws Locked.

Plain Seams comprise a large part of general sewing. Seam ends are stayed with back stitching to prevent their opening during fitting and assembling the garment. Position needle a few stitches from the edge of the garment. Hold threads which have been drawn to the back and right under presser foot. Stitch in reverse to the edge and then forward until end of seam is reached. Back stitch again to stay ends of seam.



Fig. 42. Seaming Dress Sections.

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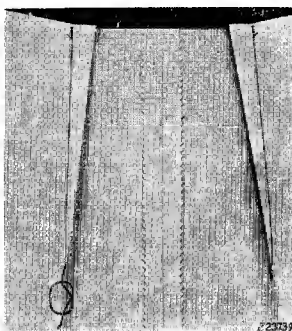


Fig. 43. Dart Thread being Tied.

Darts are conveniently stayed at the points by stitching beyond the fabric about one-half inch to form a thread chain. Tie these chained threads into a plain knot. The last three or four stitches of a dart must be very close and parallel to the fold, resulting in a smooth shaping of the garment.

#### TORSO OR SHAPED DARTS

Torso and shaped darts are stronger and more flexible when stitched with a shallow zigzag. Stitch the points for a distance of one inch with straight stitching. Zigzag centre portion.

Use: All-purpose Throat Plate and Presser Foot.

Central Needle Position.  $\frac{1}{2}$  to 1 Bight.

25 Stich for Zigzag and 12 Stitch for Straight Stitching.

Zigzag Disc No. 1.



Fig. 44. Torso or Shaped Darts.

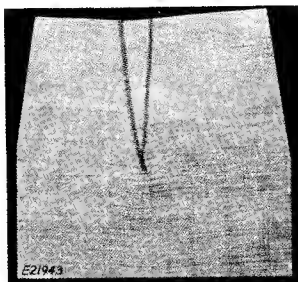


Fig. 45. Contour Dart Along Raw Edges.

#### CONTOUR DARTS IN INTERFACINGS

Contour darts in interfacings provide permanent shaping without hulk when cut, lapped and zigzag stitched along raw edges as in Fig. 45. The dart is often cut away, edges abutted and stayed with straight grain strip of muslin as in Fig. 46.

Use: All-purpose Throat Plate and Presser Foot.

Central Needle Position.

5 Bight. 25 Stitch.

Multiple Stitch Zigzag Disc No. 2.

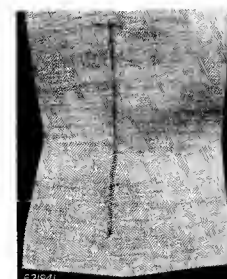


Fig. 46. Contour Dart with Abutted Edges.

## ACCENTED DARTS

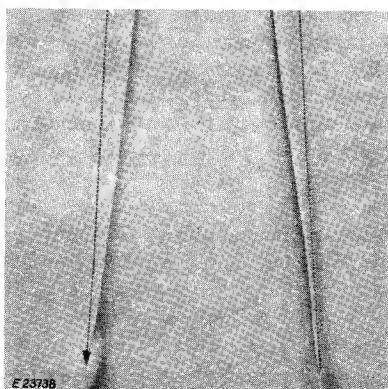


Fig. 47. Single Thread Darts.

Darts add styling and interest when stitched with the fold to outside of garment. Thread ends at the point of the dart are eliminated when the single thread principle for stitching is employed. With thread leading through the throat plate from hobbin, thread needle from back to front. Tie bobbin and upper threads together and draw knot through threading points toward spool until a sufficient length of the thread leading from the bobbin has passed the thread guide nearest the spool to complete stitching the full length of the dart. Stitch from point of dart toward edge of garment section and hack stitch to reinforce.

Further accent is given to such a dart when an arrowhead is placed at the point.

For Arrowhead, use :

All-purpose Throat Plate and Presser Foot.

Central Needle Position.

5 Bight.

Almost 0 Stitch length.

Arrowhead Disc No. 5.

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## CONTROL OF FULLNESS

Contour and shaping is accomplished in garments of soft and sheer fabrics by contour shirring. Equip machine for straight stitching, and with a stitch length of 12 or less, according to the fabric, place five rows of parallel stitching  $\frac{1}{8}$  inch apart, with the first row  $\frac{1}{2}$  inch from the outside edge. Draw threads to inside of garment at one end only and tie. Form a pin tuck across the ends of stitching. Form shirring by pulling the threads on inside of garment at second end until shirring has been drawn together sufficiently so that garment sections match. Knot thread ends



Fig. 48. Contour Shirring in Process.

and finish with a pin tuck. Join sections of garment together. Three rows of stitching are visible when finished.

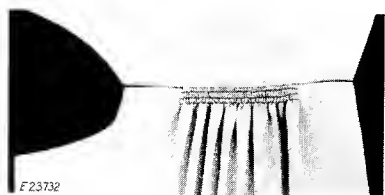


Fig. 49. Contour Shirring Completed.

When controlling eased fullness in a sleeve cap, at the elbow of a long fitted sleeve, in the shaping of a circular hem or in joining yoke or fitting seams, two lines of control stitching are used and pin tucks are omitted.

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## COUCHED ELASTIC SHIRRING

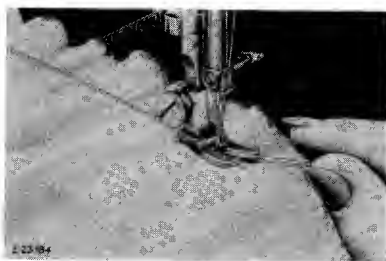


Fig. 50. Couched Elastic Shirring in Process.

Elastic thread is often used to control fullness at the waistline or cuff. Zigzag stitch over one or two strands of elastic thread, drawing the elastic thread to give the tautness desired. Knot ends securely. This treatment provides a snug fit with elasticity. Either side may be used as right side, depending upon the effect desired.

Use : All-purpose Throat Plate and Presser Foot.  
Central Needle Position.  
1 Bight.  
12 Stitch.  
Zigzag Disc No. 1.

## ELASTIC SHIRRING

Elastic thread is wound on the bobbin without stretching, while regular sewing thread is used in the needle. The machine is regulated for straight stitching. Stitch parallel rows with a 10 stitch. The bobbin tension is regulated so that it is heavy enough to stretch the elastic thread when stitching, but light enough to avoid breaking or fraying. Thread ends are fastened securely by tying.

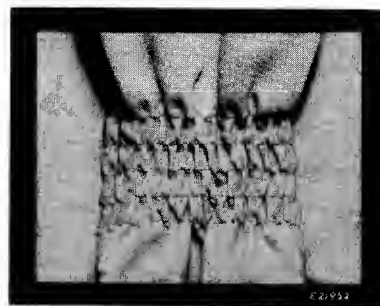


Fig. 51. Elastic Shirring Completed

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## ZIGZAG SEAMING

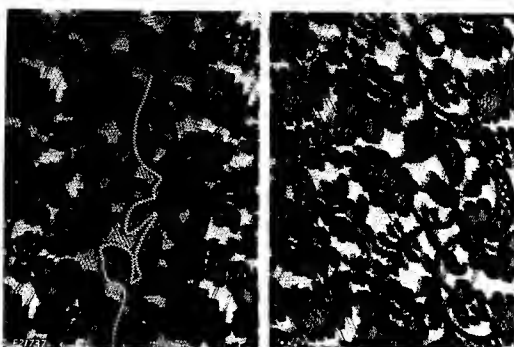


Fig. 52. Invisible Seam for All-Over Lace.

Cut away excess seam up to stitching on both right and wrong sides, using curved embroidery scissors.

Use : All-purpose Throat Plate and Special Purpose Presser Foot 161455.  
Central Needle Position.  
1½ Bight.  
Above 25 Stitch.  
Zigzag Disc No. 1.

After seams have been basted and fitted, mark outline of seam on both sections of garment with hand basting. Remove basting that joined seams and lay one section over other with seam lines matching and hand baste. Remove marking stitches. Special Purpose Presser Foot 161455 (see Page 39) is used to follow outline of lace motif that runs through seam lap.

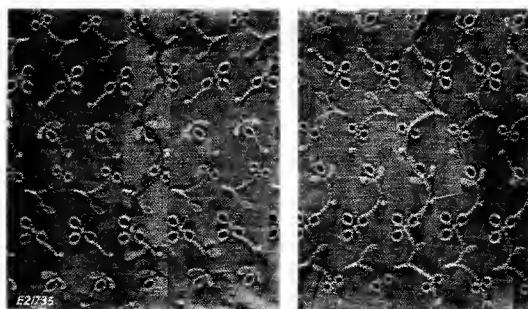


Fig. 53. Invisible Seam for All-Over Lace Embroidery.

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### CORDING SEAM WITH SPECIAL PURPOSE PRESSER FOOT 161455

Place a thread through the eye at the front of the foot and lead it underneath the foot. Cover thread with closely spaced zigzag stitches. See page 40 for threading of cord.

Use : All-purpose Throat Plate and Special Purpose Presser Foot 161455.

Central Needle Position. 2 Bight.  
Above 25 Stitch. Zigzag Disc No. 1.

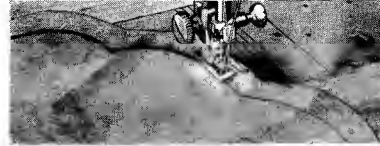


Fig. 54. Cording a Seam with Special Purpose Presser Foot 161455.

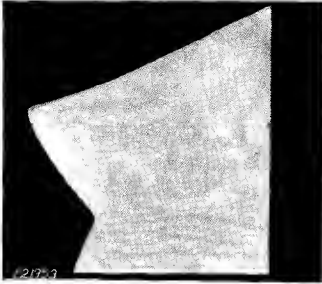


Fig. 55. Hairline Seam in Sheers.

### HAIRLINE SEAM IN SHEERS

For a dainty hairline seam in sheers that is also fray-proof, follow shaped seam line with a fine cording stitch, then cut surplus seam away close to line of stitching. This type of seam may be used either inside or outside.

### RIP-PROOF SEAM FOR LINGERIE

For rip-proof seams in lingerie, first straight stitch fitted seam on wrong side and press both edges to one side.

Use : 0 Bight. 15 Stitch for Straight Stitching.

On right side of garment, top stitch with a fine zigzag stitch letting needle first enter channel of seam, then seam thickness.

Use : All-purpose Throat Plate and Presser Foot.

Central Needle Position. 2 Bight. 25 Stitch.  
Zigzag Disc No. 1 for Zigzag Stitching.

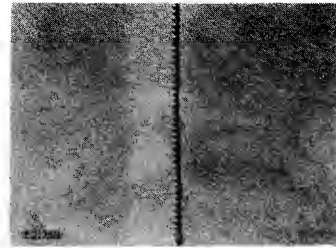


Fig. 56. Rip-proof Seam for Lingerie.

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### INVISIBLE SEAM FOR HORSEHAIR OR NET BANDINGS

Use : All-purpose Throat Plate and Presser Foot.

Central Needle Position.

1½ Bight.

25 Stitch.

Zigzag Disc No. 1.

Guide braid or banding so that edges are abutted as they meet when passing under slot of foot.

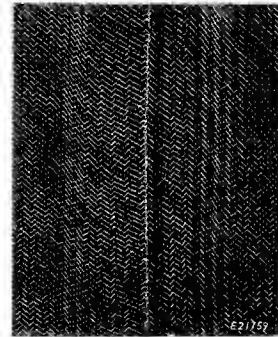


Fig. 57. Invisible Seam in Horsehair.

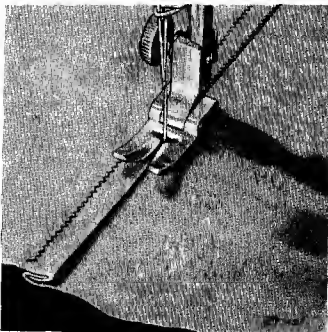


Fig. 58. Heavy Duty Reversible Seam.

### HEAVY DUTY REVERSIBLE SEAM

Use : All-purpose Throat Plate and Presser Foot.

Central Needle Position.

2 Bight.

Above 12 Stitch.

Zigzag Disc No. 1.

For heavy duty, strain-proof seams, use double interlocked seam, zigzagged on both sides. Turn under raw edge of one section, and turn up raw edge of joining section. Interlock two raw edges and zigzag across one seam on right side and across other seam on wrong side, producing a double fell, doubly reinforced, with elasticity against strain when wearing.

## STAYED SEAM FOR JERSEY OR CREPE



Fig. 59. Stayed Seam in Jersey.

Seams in fabrics that stretch or bias seams in firm fabrics are often stayed with seam tape for durability. Position seam tape with edge exactly on seam line. If seam is curved, shape seam tape by steaming at the ironing board. Hand baste if necessary. Stitch with fine zigzag stitching. Press seam open, after clipping on curve.

Use : All-purpose Throat Plate and Presser Foot.  
Central Needle Position.  
 $\frac{1}{2}$  to 1 Bight.  
12 to 25 Stitch.  
Zigzag Disc No. 1.

## OVERLAPPED SEAM FOR INTERLINING

The seams of an interlining are always overlapped to avoid excessive bulk in a garment. Care must be taken to use the full seam allowance. Stitch in the centre of the overlap with multiple stitch zigzag. Trim excessive width from seam edges. This seaming is durable, flexible and free of bulk.

Use : All-purpose Throat Plate and Presser Foot.  
Central Needle Position.  
5 Bight.  
12 Stitch.  
Multiple Stitch Zigzag Disc No. 2.



Fig. 60. Overlapped Seam for Interlining.

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## SEAM FINISHES

### TO OVERCAST OPEN SEAMS

Turn raw edge toward wrong side and, while stitching, let it pass over flanged toe of All-purpose Presser Foot and through slot. Guide material so that needle, when swinging to the right, pierces material exactly at edge.

Use : All-purpose Throat Plate and Presser Foot.  
Central Needle Position.  
2 Bight.  
15 Stitch.  
Zigzag Disc No. 1.

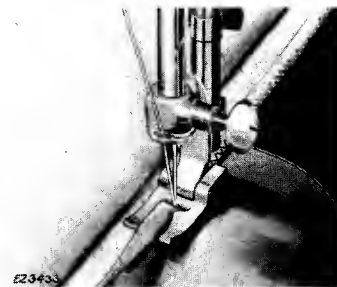


Fig. 61. Overcasting Open Seams.

### TO FINISH SEAMS IN TRICOT OR SHEERS

Step 1. Stitch seam with short straight stitching using Straight Stitching Presser Foot and Straight Stitching Throat Plate.

Step 2. Finish seam edges together with stitching controlled with the Blind Stitch Disc No. 3. Trim seam allowance close to stitching. This finish prevents fraying and provides a fine smooth edge.

Use : (for seam finish) All-purpose Presser Foot and Throat Plate.  
Central Needle Position.  
1 or 2 Bight.  
25 Stitch.  
Blind Stitch Disc No. 3.

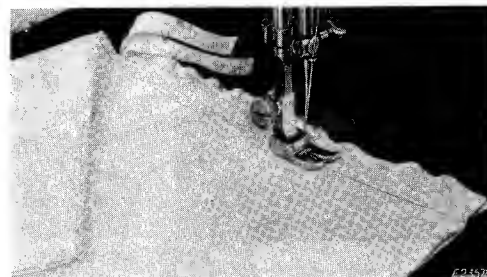


Fig. 62. Finishing Seam in Tricot.

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## TO OVEREDGE SEAMS

Seam edges support the garment and should always carry a durable finish if fit is to be maintained after long wearing. The stitch made with the Blind Stitch Disc is especially durable and free of bulk when used as a seam finish.

When seam edges are pressed in the same direction, they are overedged together, and when pressed open, they are overedged separately.

Use : All-purpose Presser Foot and Throat Plate.  
Central Needle Position.  
4 or 5 Bight.  
25 Stitch.  
Blind Stitch Disc No. 3.

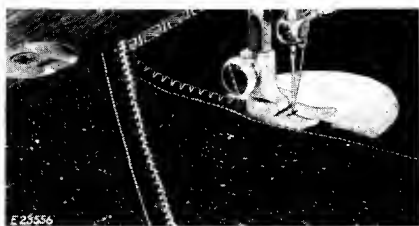


Fig. 63. Overedging Seam Edges Together.

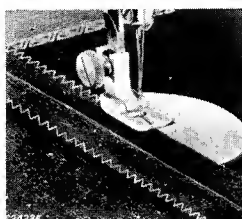


Fig. 64. Overedging Open Seams in Process.

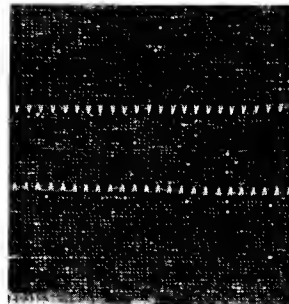


Fig. 65. Overedged Open Seams—Completed.

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## TO MAKE BUTTONHOLES

### Step 1. Marking the Material

Mark position and length of buttonholes with basting stitches (see Fig. 66) or marking chalk, allowing an extra  $\frac{1}{16}$ " in width for cutting space and an extra  $\frac{1}{8}$ " in length for  $\frac{1}{16}$ " bar allowance on each end.

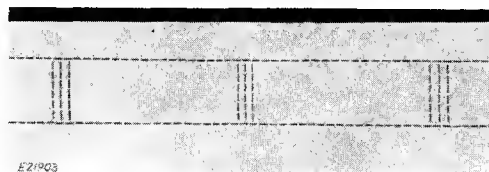


Fig. 66. Marking Location of Buttonholes with Basting Stitches.

### Step 2. Setting the Machine

Use : All-purpose Throat Plate and Special Purpose Presser Foot 161455 (see Page 39).  
Left Needle Position (see Page 18).  
Above 25 Stitch.  
2 Bight for Side Stitches of Buttonhole.  
4 Bight for Barring Stitches.  
0 Bight for Fastening Stitches.  
Zigzag Disc No. 1.

Note : Bight settings of  $2\frac{1}{2}$  for Side Stitches and 5 for Barring Stitches make slightly heavier buttonholes.

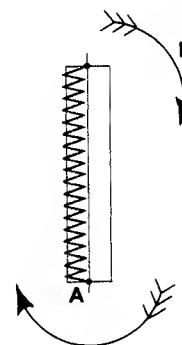
### Step 3. Guiding

Set bight regulator at "2," position needle just left of central marking ready for left swing, and stitch, using centre notch of foot as a guide to keep stitches just left of central marking and astride side marking.

### CENTRE LINE OF BUTTONHOLE



Step 1.



Step 3.



Step 4.

#### Step 4. Pivoting

When centre notch of foot reaches end of marking, leave needle in fabric at the point nearest central marking, as shown by A in illustrations.

Raise foot and, using needle as a pivot, turn work around clockwise, as indicated at B. Lower foot and take one (1) stitch, leaving needle in buttonhole marking at point C.



Step 5.

#### Step 5. Barring

Set bight regulator at "4" for wide swing and take six (6) stitches, leaving needle in fabric at point D at left.

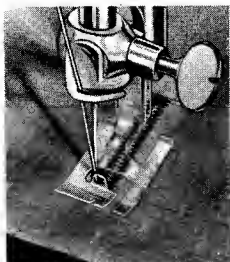
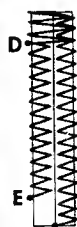


Fig. 67.



Step 6.

#### Step 6. Finishing Buttonhole Edge

Return bight setting to "2" and stitch final edge of buttonhole, keeping centre notch of foot just left of central marking to provide sufficient cutting space.

Stop within six stitches of end, leaving needle in fabric at point E at outside marking. This point may be easily determined, while stitching, by observing last stitch in first row at lower edge of opening in special purpose foot.

#### Step 7. Finishing Final Bar and Fastening Stitch

Set bight regulator at "4" for widest stitch and take six (6) stitches to complete final bar. Set bight regulator at "0" and stitch length at "0" and take three (3) fastening stitches at point F. Cut buttonhole along line of centre marking.

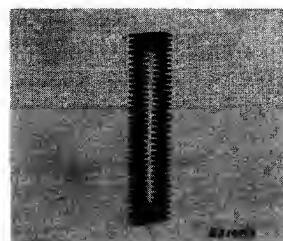
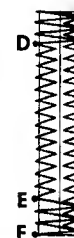


Fig. 68.



Step 7.

#### Raised or Gimp Buttonholes

Insert No. 8 Pearl Cotton or Cordonnet Thread through eyelet in front of special purpose presser foot, as shown in Fig. 69 and proceed as for regular buttonholes as instructed on Pages 55 and 56.

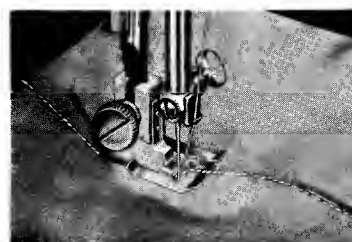


Fig. 69. Making Gimp Buttonholes.

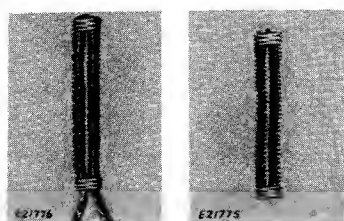


Fig. 70. Gimp Buttonholes.

### TO SEW ON BUTTONS

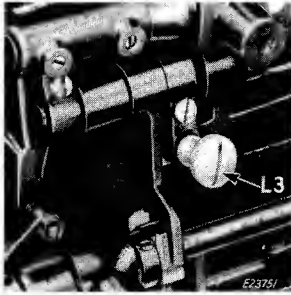


Fig. 71. To Lower the Feed.

Lower the feed by turning machine back on its hinges and loosening screw L3, Fig. 71, turning it over to left (using a screwdriver, if necessary) as far as it will go. Bring machine forward into place and move stitch regulator lever J3, Fig. 18, Page 17 to its neutral position at centre of slot. When regular sewing is resumed, tighten feed throwout screw L3, turning it to right as far as it will go.

Use: All-purpose Throat Plate  
Button Sewing Foot 189648.  
Left Needle Position.  
Approximately 3 Bight.  
0 Stitch. Zigzag Disc No. 1.

With Bight at "0," position button, drop needle through centre of left hole. Then lower Button Sewing Foot. Turn hand wheel over toward you until needle rises. Set Bight at approximately "3" or so that needle, on its right swing, enters centre of right hole, then stitch. Needle should enter each hole six times. To fasten stitch, set Bight at "0" and take 3 stitches in left hole of button.

### TO SEW ON BUTTONS WITH THREAD SHANK

Follow steps outlined above and in addition, hold pin or needle between holes in button to deepen stitches and provide thread shank. A long thread shank results when the heavy end of sewing machine needle is used in place of a pin. Tighten needle thread tension if stitches appear to be loosely set.

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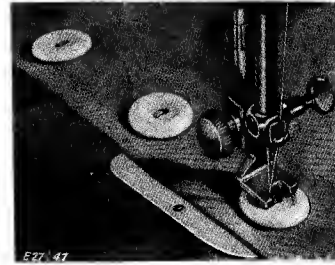


Fig. 72. Sewing on Buttons.

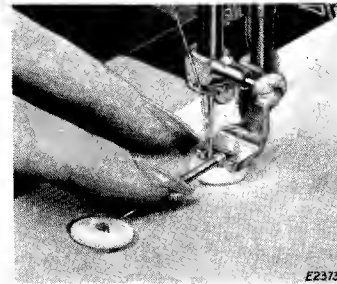


Fig. 73. Sewing Buttons with Thread Shank.

### TO SEW ON SNAPS AND HOOKS AND EYES

No Presser Foot is used for sewing on snaps. Instead, hold snap in place with tweezers, stiletto, or the point of embroidery scissors.

Lower the feed as instructed on page 58.

Use: All-purpose Throat Plate.  
Left Needle Position.  
0 Stitch setting.  
2 Bight.  
Zigzag Disc No. 1.

Centring needle in first hole, take 6 overedging stitches, leaving needle in hole at left position on last stitch. Change Bight to 0 and take 3 fastening stitches. Carrying thread across snap, centre needle in next hole and change Bight to 2. Take 6 overedging stitches, then returning Bight to 0, take 3 fastening stitches. Continue this process with each hole.

The same procedure and settings are followed when sewing on hooks and eyes except that after taking 6 overedging stitches in first hole of hook, leave needle in centre of hole and turn work so that next 6 overedging stitches will carry across bar of hook, then proceeding to second hole, take 6 overedging stitches and

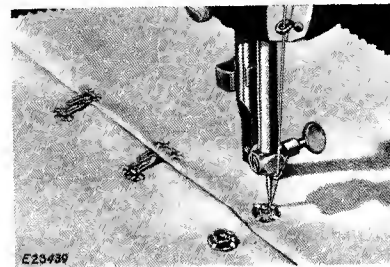


Fig. 74. Sewing on Snaps and Hooks and Eyes.

changing Bight to 0, finish with 3 fastening stitches.

Follow same procedure for sewing on eye, taking 6 overedging stitches in first hole, 6 overedging stitches across to second hole, 6 overedging stitches to side of hole, and changing Bight to 0, finish with 3 fastening stitches.

## BLIND STITCHED ZIPPER INSERTION

On chiffons, sheers, velvets and all delicate or textured fabrics, zippers may be inserted with a blind stitch, equal to invisible hand stitching, by using Adjustable Zipper Foot. Allow seams  $\frac{1}{4}$ " deeper than average. Use machine basting with stitch length set at 8, to close placket on seam line.

Turn a fold in back seam allowance  $\frac{1}{8}$ " from basted seam line and pin this fold to zipper tape, rolling both over finger, while pinning, to ease fabric. Baste, then machine stitch the fold to tape, using 12 stitch length and Cording Foot (at left of needle)—see Page 41.

Reinforce closure at each end by stitching across top and bottom of zipper tape and front seam allowance from seam edge toward side seam and back stitch.

Turn garment right side out and pin front zipper tape into position, placing pins on right side of garment, through all thicknesses, while rolling over finger to ease fabric. Baste about  $\frac{3}{8}$ " from seam line to provide guide for blind stitching.

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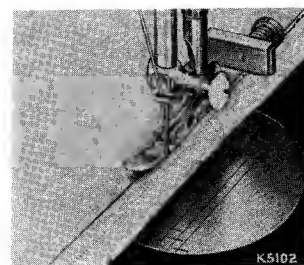


Fig. 75. Cording Foot (at left of needle) Applying Fold to Zipper Tape.

Use: All-purpose Throat Plate and Adjustable Cording Foot 161127.  
Central Needle Position.  
Approximately 2 Bight.  
25 Stitch.  
Blind Stitch Disc No. 3.

Turning garment inside out, lay slide fastener over feed of machine and turn back the front section of garment to line of basting, creating a soft fold.

Stitch, using Blind Stitch Disc No. 3, a 25 stitch and approximately 2 Bight. The straight line of stitching will pass through the tape of the zipper and front seam, the sideward stitch will pierce a thread or two of the fold.

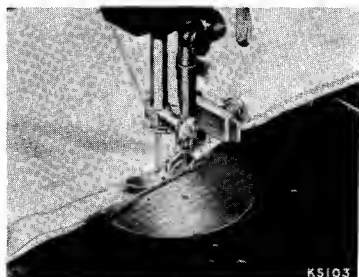


Fig. 76. Blind Stitching Zipper.

The needle position lever can be used slightly left of centre, the better to position the straight stitching and to control placement of sideward stitch. Should a deeper Bight than 2 be required for thick fabrics, Left Needle Position must be used.



Fig. 77. Blind Stitched Zipper Insertion.

## BLIND STITCHED AND DECORATIVE HEMS

### BLIND STITCHED HEMS WITH FOLDED EDGE

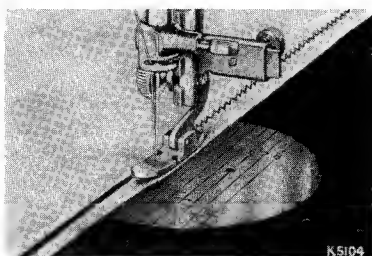


Fig. 78. *Blind Stitched Hem in Process.*

Blind stitched hems are appropriate for curtains, draperies, table linens and fabric furnishings. Fold, press and baste hem, keeping basting stitches at least  $\frac{1}{4}$ " from upper fold of hem.

Place hem against feed, turning the bulk of the work back in a soft fold. Position needle into folded edge of the hem near this soft fold. The Blind Stitch Disc produces four straight stitches separated by a single sideward stitch to the left. The sideward stitch should pierce the soft fold, resulting in a blind stitched hem. The bight is regulated at 2 or 3, depending on the weight and texture of the fabric.

The length of stitch regulates the distance between the blind stitches.

Use : All-purpose Throat Plate and  
Adjustable Cording Foot 161127.  
Central to Left Needle Position.  
2 or 3 Bight.  
12 to 25 Stitch.  
Blind Stitch Disc No. 3.

**CAUTION :** Left Needle Position must be used when Bight 3 or 4 is used with Cording Foot (at right of needle).

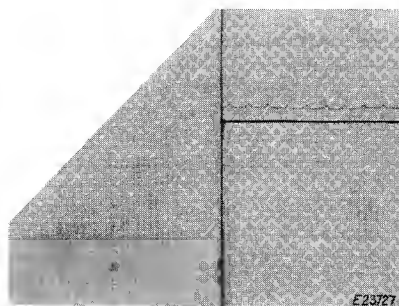


Fig. 79. *Blind Stitched Hem Completed.*

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### SHADOW HEMS FOR TRICOT

Baste hem one-half inch from top edge. Position under All-purpose Presser Foot and Stitch with  $1\frac{1}{2}$  to 2 Bight, 25 Stitch and Blind Stitch Disc No. 3.

Trim raw edge near solid line of stitching. A small stitch will be visible at regularly spaced intervals on the right side of garment. To make this stitch less apparent, reduce width of bight.



Fig. 80. *Shadow Hem for Tricot in Process.*

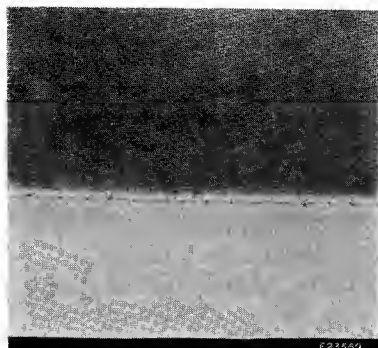


Fig. 81. *Shadow Hem in Tricot Completed.*

Use : All-purpose Presser Foot and Throat Plate.  
Central Needle Position.  
 $1\frac{1}{2}$  to 2 Bight.  
25 Stitch.  
Blind Stitch Disc No. 3.

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## BLIND STITCHED HEM FINISHED WITH SEAM TAPE

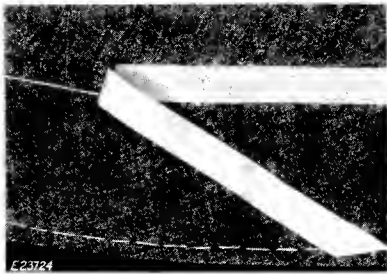


Fig. 82. Seam Tape Basted to Hem Edge before Blind Stitching.

Hems in skirts, dresses or coats have extra width at the top of the hem to consider. When the garment is flared or circular, there is more fullness in the hem than in pencil slim styles. This fullness must be controlled before the hem is finished, if a smooth hem is to result.

After the length of the garment is marked, pin and baste with silk thread one-quarter inch from crease of hem. Press, to shape hem allowance, then measure and cut hem to desired width.

Control fullness by placing a line of straight stitching one-quarter inch from top edge of hem and draw bobbin thread, easing fullness and shaping top of hem to garment. Steam to shrink excess fullness.

Baste and stitch seam tape along this quarter inch control thread. Hand baste through centre of seam tape in preparation for blind stitching. Position hem against feed with inside of garment rolled to the left to form a soft fold at basting line. Blind stitch hem with the machine equipped as follows :

Use : All-purpose Presser Foot and Throat Plate.  
Central to Left Needle Position.  
1 to 3 Bigt.  
12 to 25 Stitch.  
Blind Stitch Disc No. 3.



Fig. 83. Blind Stitching Hem Finished with Seam Tape.

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## BLENDED CIRCULAR HEM

Circular hems in heavy coatings are smoothly finished, when the fullness is removed, by cutting away narrow wedges at regular intervals to allow the hem to conform exactly to the shape of the garment. The cut should not extend beyond one inch from the lower fold of the hem. Garments where this treatment is used are usually lined and the lining is carried to one inch from the edge.

Bring cut edges together and stitch with Multiple Stitch Zigzag Disc. Should the fabric be loosely woven, an underlay of thin lawn may be used as a stay on the underside.

Use : All-purpose Presser Foot and Throat Plate.  
Central Needle Position.  
5 Bigt.  
25 Stitch.  
Multiple Stitch Zigzag Disc No. 2.

The edge of the hem is finished by overedging with Blind Stitch Disc No. 3, 5 Bigt, and 25 Stitch, as described on Page 54.

Hand baste hem to garment three-eighths inch from top edge of hem. Place hem against feed and turn garment to form a soft roll at basting line as in Fig. 83, page 64.



Fig. 84. Blended Circular Hem.

Use : All-purpose Throat Plate.  
Adjustable Cording Foot 161127.  
Needle Position, slightly left of Centre.  
2 to 3 Bigt.  
Blind Stitch Disc No. 3.

65



## APPLIQUÉ SHADOW HEMS

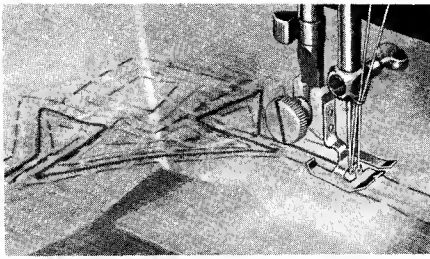


Fig. 85. *Appliqué Shadow Hem in Process.*

Shadow hems are lovely for table linens of crisp organdie or fine linen, as well as for dresses or aprons of sheer, crisp fabrics. Baste hem to full depth of design, corners mitred where necessary. Mark design on right side. Draw filler cord through opening in front of Special Purpose Presser Foot and follow design with fine, closely spaced zigzag stitching. When appliqué is complete, cut away surplus edge from wrong side close to stitching. See Fig. 86 and page 39 for threading of cord.

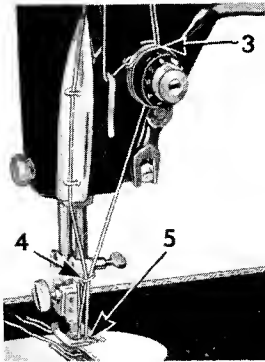


Fig. 86. *Threading Special Purpose Presser Foot with Filler Cord.*

Use : All-purpose Throat Plate.  
Special Purpose Presser  
Foot 161455.  
Central Needle Position.  
1 Bight.  
Almost 0 Stitch.  
Zigzag Disc No. 1.

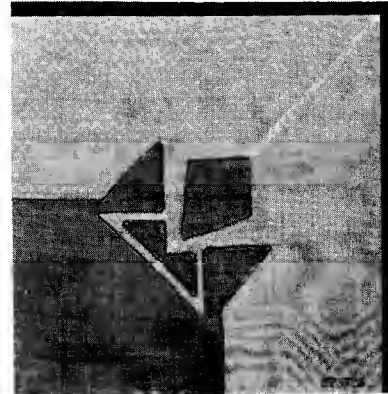


Fig. 87. *Appliqué Shadow Hem Completed.*

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## EMBROIDERED LACE OR VIENNA WORK

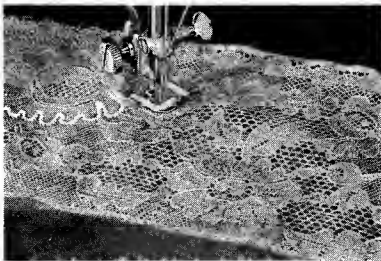


Fig. 88. *Outlining Lace Motif with Special Purpose Presser Foot 161455.*

Embroidered Lace or Vienna Work is characteristic of high-priced lingerie. Yet it may be very quickly and easily accomplished with Special Purpose Presser Foot, using fine rayon or silk crochet thread as the filler cord to be covered. See page 40 for threading of cord.

Use : All-purpose Throat Plate.  
Special Purpose Presser Foot 161455.  
Central Needle Position.  
1 Bight.  
Almost 0 Stitch.  
Zigzag Disc No. 1.

Use wide lace edging with a definite floral design, and haste into position, where desired, on right side of fabric. First follow upper lines of motif nearest edge, covering filler cord with tiny stitches along lines of motif, and proceeding in an unbroken, continuous line. Then choose a section of the motif nearest edge and fully outline this separate motif, repeating at evenly spaced intervals for length of the lace. Finally, remove bastings, cut away surplus lace close to stitches of corded outlines and, from wrong side of garment cut away surplus satin along edge, close to lines of cording.

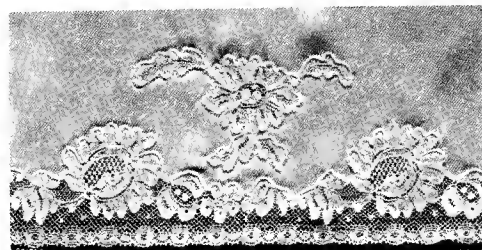


Fig. 89. *Lace Motif Embroidered into Satin.*

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## SHELL STITCHED HEMS

Shell stitched hems provide a soft, ornamental finish for delicate fabrics, particularly when material is cut on the bias.

Lower shell hemmer over raw edge of fabric on wrong side of material. Take one stitch, raise shell hemmer, draw the work back and cut threads. Holding both ends of attached needle thread, lead raw edge of fabric lightly into scroll of hemmer, drawing on threads to carry it through. On reaching slot of hemmer, lower the needle into hem, then lower hemmer and stitch.

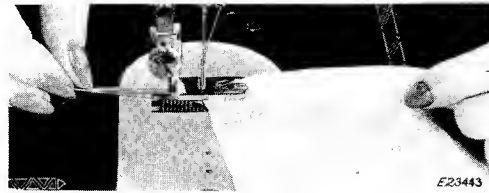


Fig. 90. Leading Raw Edge into Scroll of Shell Hemmer.

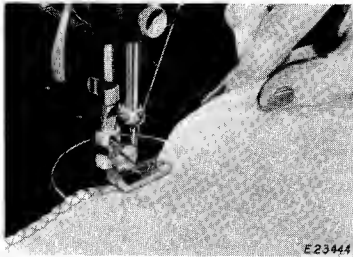


Fig. 91. Shell Stitched Hem in Process.

Use : All-purpose Throat Plate

Shell Hemmer 189653.

Central Needle Position.

5 Bight. 8 Stitch.

Zigzag Disc No. 1 or  
Multiple Stitch Zigzag Disc  
No. 2 or

Blind Stitch Disc No. 3.

Many variations of the soft scallop may be obtained by using different stitch settings and threads.

The automatic stitch de-

signs lend further variation and interest to shell hems.

The shell hems illustrated are stitched with Blind Stitch Disc at 3 Bight and 25 Stitch (Fig. 92), and with Multiple Stitch Zigzag Disc at 5 Bight and 25 Stitch (Fig. 93).

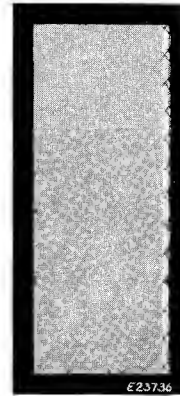


Fig. 92.

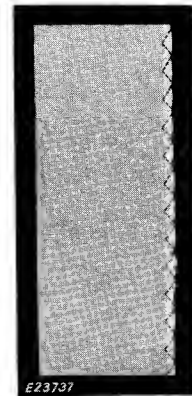


Fig. 93.

Completed Shell Hems.

## SATIN STITCHED SCALLOPS

Satin stitched scallops provide a beautiful and durable finish for household linens as well as for wearing apparel.

Prepare the work for satin stitching by using a double thickness stayed with crinoline or organdie, or a single thickness backed with paper. Trace scallops in position, allowing a sufficient margin of fabric (about 2 inches) at right to grasp with right hand in guiding scallops. If, when cutting, sufficient length were not allowed, machine baste a piece of same fabric, or stay fabric just outside marked line of scallop.

Use size 11 needle, silk thread, very light upper tension and medium light bobbin tension and **most important**, the Pressure on the Presser Foot must be set as light as possible so that the fabric can be moved from right to left while satin stitch is being made. The fabric remains straight at all times in line with the feed. Scallops are followed without turning by lightly moving the work, to right or left, so that the needle on its right swing follows the marking for



Fig. 94. Satin Stitching Scallops.

the scallop. This will maintain parallel stitches, evenly spaced, automatically producing the effect of a narrower stitch at the point between scallops and widening to full depth at the arc.

Use : All-purpose Throat Plate.

Special Purpose Presser Foot 161455.

Central Needle Position.

Almost 0 Stitch.

5 Bight.

Zigzag Disc No. 1.

## TO CORD SCALLOPS

A finely corded edge finish is often used to complete satin stitched scallops. Lead heavy duty thread into eye of Special Purpose Presser Foot and carry it through and under foot. See page 39 for threading of heavy duty thread. Position needle close to edge of scallop, lower foot and stitch close to scallop, covering filler cord with closely spaced stitches, crowding against scallop all along the way.

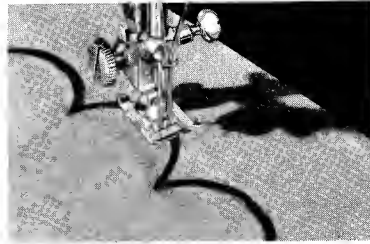


Fig. 95. *Cording the Scallops.*



Fig. 96. *Trimming Scalloped Edge.*

If scallops border a hem, cut away surplus of hem on wrong side close to inside of scallop. If scallops form an edge, cut away surplus border close to cording stitches on outside of scallop, at the same time cutting away foundation crinoline or organdie.

Use : All-purpose Throat Plate.  
Special Purpose Presser Foot 161455.  
Central Needle Position.  
1 Bight.  
Almost 0 Stitch.  
Zigzag Disc No. 1.  
Medium Pressure Adjustment.

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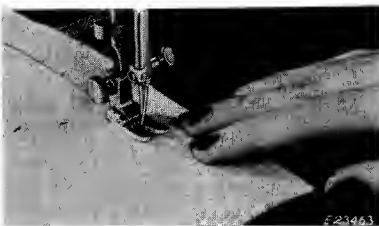


Fig. 97. *Following Drawn Thread with All-purpose Presser Foot.*

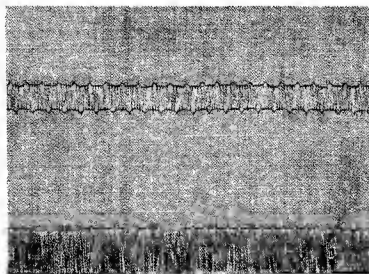


Fig. 99. *Blind Stitch Used for Fringed Edge.*

## FRINGED EDGES

Use : All-purpose Presser Foot and Throat Plate.  
Right or Left Needle Position.  
2 Bight.  
12 to 25 Stitch.  
Zigzag Disc No. 1 or Blind Stitch Disc No. 3.

Draw a thread marking depth of fringe. Stitch along this line. Beginning at raw edge, draw out threads up to stitched line.

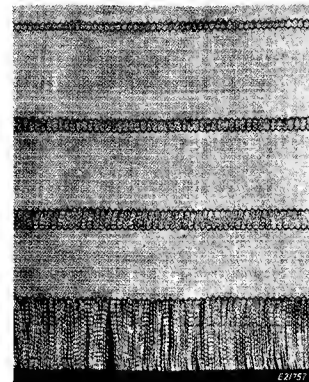


Fig. 98. *Wide Hemstitching.*

Wide hemstitching is done in same manner as fringed edges, except that threads are drawn to mark width of hemstitching. When using Blind Stitch Disc, stitch to complete one side of hemstitching. Turn fabric and stitch second side, matching stitches. Then draw remaining centre threads between rows of stitching.

Zigzag Disc No. 1 or Blind Stitch Disc No. 3 are equally effective to use for fringed edges and wide hemstitching.

## CORDED EDGES WITH FABRIC COVERED CORD

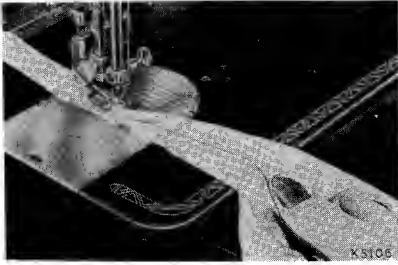


Fig. 100. Covering Cord with Cording Foot (at left of needle).

Use: All-purpose Throat Plate, or Straight Stitching Throat Plate.

Central Needle Position.

0 Bight.

Adjustable Cording Foot 161127.

To Cover Cord cut bias strip twice the width of the seam allowance plus cord. Fold bias over cord, raw edges even, and position needle close to cord, but not into it, and lower Cording Foot (at left of needle). Stitch, guiding the edge of the foot next to the cord, but do not crowd the foot against it.

Machine Baste Cord to right side of garment using Cording Foot (at right of needle).

Apply Facing and position under needle, with facing next to feed and garment next to foot, so that basting stitch will be in view. Stitch, this time crowding the foot against the cording and making stitches between the basting and the cording.

Before turning work, blend seams by cutting away seam allowances, the bias to  $\frac{1}{8}$ " and the garment and facing to  $\frac{1}{4}$ ".

Corded seams and edges lend smartness to tailored garments. Cushion covers and slip covers are usually finished with corded seams. The cording foot is essential for making corded seams and edges and has many applications in addition to stitching zippers and hems as described on Pages 60, 61, 62 and 65.

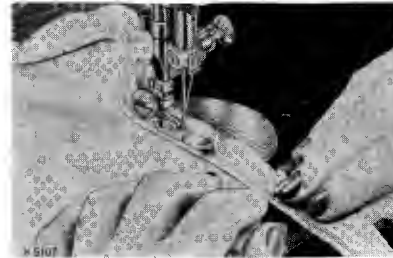


Fig. 101. Machine Basting Covered Cord to Garment.

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## SCALLOPING

### SCALLOPED EDGES

When the Scallop Disc is in use, the needle moves to form a scallop while the fabric moves in a straight line under the presser foot. The depth of the scallop is controlled by the bight setting. A 5 Bight produces a scallop approximately  $\frac{3}{16}$ " deep and each bight setting of less than 5 produces a correspondingly narrower scallop.

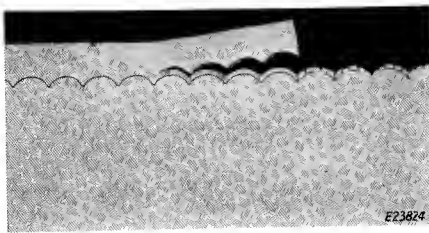


Fig. 102. Scalloped Edge in Process.

Use: All-purpose Presser Foot and Throat Plate.

Central Needle Position. 5 Bight.

12 to 25 Stitch as desired.

Scallop Disc No. 4.

Stitch in the same way as when making a straight seam. The garment section will pass straight under the presser foot while the needle follows a scallop pattern.

Trim seam allowance to less than  $\frac{1}{8}$ " and clip into each point between scallops.

Blend this narrow seam by clipping small wedges at regular intervals. When the scallop is turned the seamed scallop edge will have a smooth even contour.

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The length of scallop varies with the stitch length. A 12 stitch and a 5 Bight produce a scallop approximately  $1\frac{1}{4}$ " in length, a 25 stitch and 5 Bight give approximately a  $\frac{3}{4}$ " scallop, while a stitch length above 25 produces a scallop of  $\frac{1}{2}$ " in length or less depending upon the stitch.

A single straight stitch separates each scallop, providing space for cutting when the seam edges are trimmed and turned to form the finished, faced scallop edge.

Scalloped edges are used extensively on blouses, dresses and children's wear.

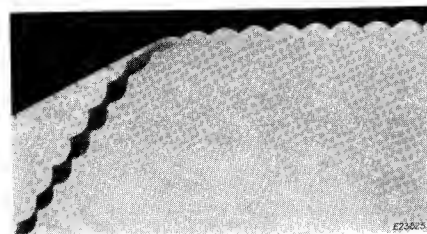


Fig. 103. Scalloped Edge Completed.

## SCALLOPED TUCKS

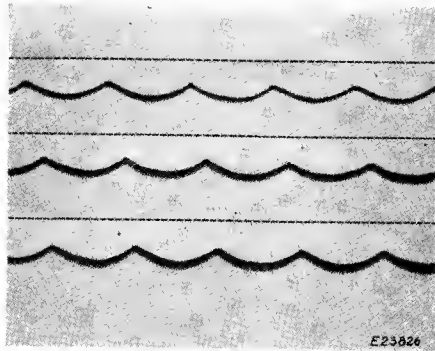


Fig. 104. Scalloped Tucks.

### SHADOW SCALLOPING WITH TWIN NEEDLES

Sheer fabrics are well suited to shadow scalloping. Limit Bight to 3 and set machine at central needle position. Insert TWIN NEEDLES as described on Page 8 and replace presser foot with special purpose presser foot. Loosen needle thread tension slightly and set desired stitch length between 12 and 25. If several rows are used, start each row with the stitch pattern beginning at the same point. Should fabric be soft, use an underlay of fine organdie and trim away closely at line of stitching. Shadow scalloping is attractive by itself or in combination with scalloped tucks on blouses, dresses and children's clothes.

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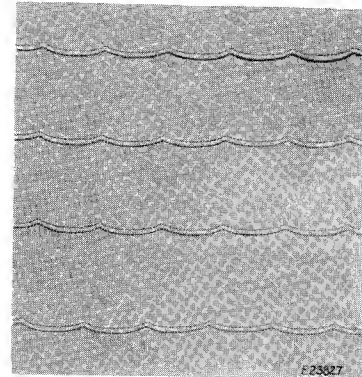


Fig. 105. Shadow Scalloping.

## MONOGRAMS



Fig. 106.

Attractive variation is given simple monograms when one or more automatic stitch patterns are introduced. Select a monogram from the many transfer designs available or sketch one to suit your purpose. Back fabric with tarlatan, crisp lawn or organdie. Trace or stamp design on right side of material. Cut away backing when stitching has been completed. For monogram in Fig. 106.

Use: All-purpose Throat Plate.  
Special Purpose Presser Foot 161455.  
Central Needle Position.  
5 Bight.  
Almost 0 Stitch.  
Zigzag Disc No. 1.  
Arrowhead Disc No. 5.

Twin Needle work, where needles are threaded with contrasting threads or with threads of different shades, is appropriate for monograms. The monogram illustrated in Fig. 107 exemplifies such stitching.

Use: All-purpose Throat Plate.  
Special Purpose Presser Foot 161455  
Central Needle Position.  
3 Bight.  
Almost 0 Stitch.  
Zigzag Disc No. 1.  
Domino Disc No. 6.

The straight single bars of stitching are made with a  $2\frac{1}{2}$  bight, the Zigzag Disc and the single needle.

Twin needle stitching forms the outer lines of the large letter inside of which is placed a line of domino stitching. A narrow bar of satin stitching accents the inside edge of each letter.

Use: All-purpose Throat Plate.  
Special Purpose Presser Foot 161455.  
Central Needle Position.  
3 Bight and 1 Bight.  
Almost 0 Stitch.  
Zigzag Disc No. 1.  
Domino Disc No. 6.

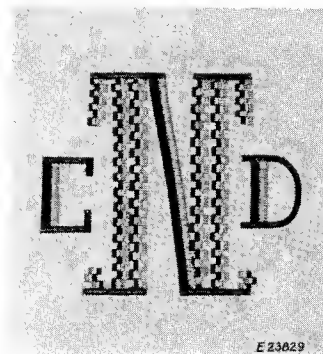


Fig. 107.

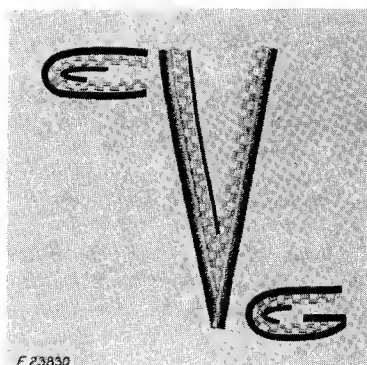


Fig. 108.



Fig. 109. Script Stitching with Hoops.

work under needle, lower the presser bar, position the needle and follow the outline traced. Should thread breakage occur, check setting of needle, decrease tension and use crisp lawn or organdie as an underlay.

#### SHADOW MONOGRAM

Shadow monograms have a dimensional appeal accomplished with threads of different colours or shades and with Twin Needles.

Proceed as for Script Stitch. Limit bight to 3 or less and use a needle thread tension slightly lighter than for Script Stitch. Stitch more slowly when crossing one line of stitching over another. Where lines cross, stitch the first line less dense and allow the second line of stitching to be more prominent.

Move embroidery hoops in forming letters so that most of the motion is away from you. Move hoops with the stroke of the needle, taking care not to bend or deflect needles. Shadow monograms are equally appropriate for linens and wearing apparel.



Fig. 110. Shadow Monogram.

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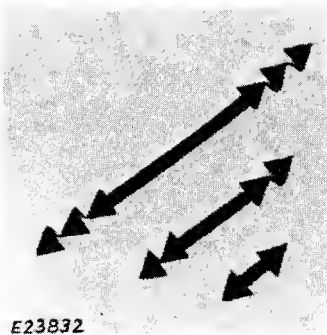


Fig. 111.

Stitch lines first, add arrowheads. Stitch on a scrap of fabric until the arrowhead is completed and the needle is ready to take the last centrally located stitch at the point. Position needle in the centre of the bar of stitching, lower foot and stitch slowly, completing the number of arrowheads desired.

For Fig. 112 equip machine as indicated above and in addition to the Arrowhead and Zigzag Discs, use the Multiple Stitch Zigzag Disc at a 5 Bight and almost 0 stitch length.

#### DESIGNS AND MOTIFS

A touch of stitching, smartly placed, is subtle and fashion wise. The motifs illustrated on this page are examples of stitching accomplished with a combination of several discs from simple original designs. When used on a collar point, tie, tab or pocket, they add smartness and individuality. For Fig. 111,

Use · All-purpose Throat Plate.  
Special Purpose Presser Foot 161455.  
Central Needle Position.  
3 Bight for lines and  
5 Bight for Arrowheads.  
Almost 0 Stitch.  
Zigzag Disc No. 1.  
Arrowhead Disc No. 5.

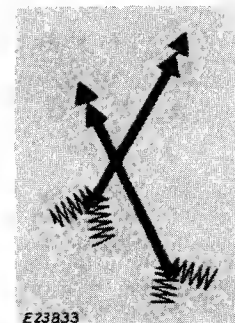


Fig. 112.



The Zigzag and Arrowhead Discs are used to form the design in Fig. 113.

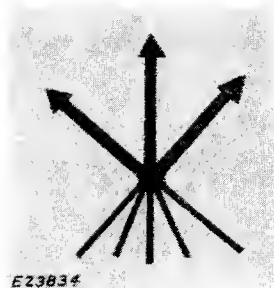


Fig. 113.

The star of arrowheads in Fig. 114 is formed with the Arrowhead Disc by stitching from the centre outwardly.

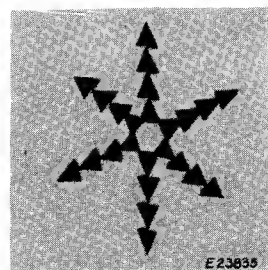


Fig. 114.

Classic designs, such as the one in Fig. 115 are smart when used singly or in groups. The Zigzag and Domino Discs are used, following simple, straight lines.

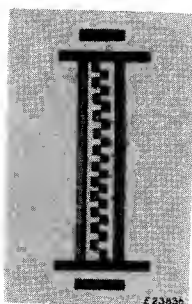


Fig. 115.

A combination of the Arrowhead and plain Zigzag stitching produce the simple, interesting motif in Fig. 116. Such designs are easily adapted to the space and dimension of the garment section where they are used.

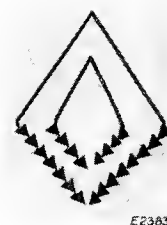


Fig. 116.

## BORDER DESIGNS

Unlimited variation and expression are possible in border designs when several stitch patterns are used in combination. The width and density of the border can be varied according to the application. In addition to the suitability of such stitching for linens, draperies and apparel as border designs, it is effective on plain fabrics to simulate striped or plaid effects. A popular application of these designs is for pockets, yokes, cuffs and applied bands.

The Scallop and Arrowhead Discs are used to form the attractive design in Fig. 117. Two lines of scallop stitching—Bight 5, and Stitch above 25—are crossed by groups of arrowhead stitching—Bight 5, Stitch almost 0.

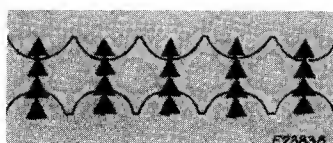


Fig. 117.

Three discs are used in forming the border design in Fig. 118. After stitching the rows of scalloping with a 5 Bight, and above 12 Stitch length, satin stitched bars are made with Zigzag Disc, 3 or 4 Bight and almost 0 Stitch across points between scallops. Arrowheads accent each solid bar of stitching at 5 Bight and almost 0 Stitch.

Suitable for vertical or horizontal treatment the design in Fig. 119, is made with the Zigzag and Scallop Discs. Scalloping is joined with criss-cross bars of stitching. The proportion may be varied according to the application.

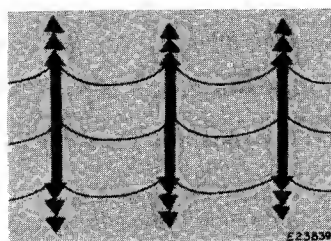


Fig. 118.

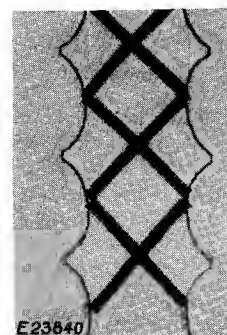


Fig. 119.

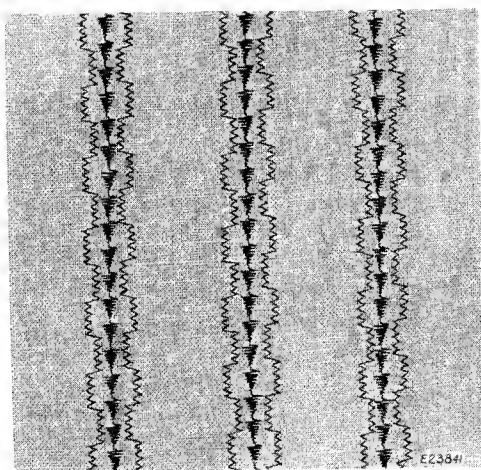


Fig. 120.

The design in Fig. 120 is made with Arrowhead and Domino Discs and is appropriate for a simple border or as an all-over stripe on a plain fabric.

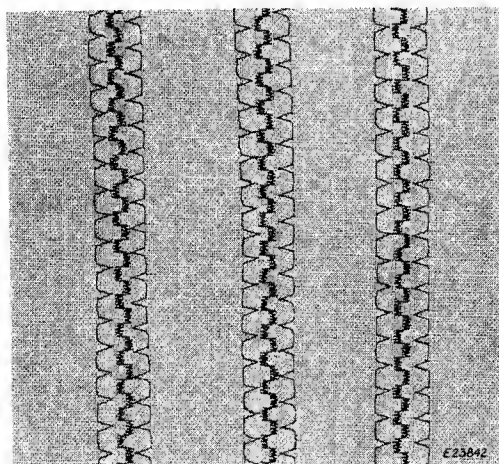


Fig. 121.

The Domino and Blindstitch Discs are used in effecting the interesting stripe or border design in Fig. 121.

## BUTTONHOLE POCKETS



Fig. 122. Step 1 of Pocket in Process.

Buttonhole pockets accented with stitched designs are effectively made on the SINGER Automatic Machine. Appropriate for dresses of tailored and classic style as well as for blouses, shirts and sportswear, these pockets are simple to make and are sturdy and durable.

Mark position of pocket opening with a basting line and the design for stitching with a fine chalk line. A backing of lawn, organdie or muslin provides the body and firmness desirable when satin stitching is used.

The pocket design illustrated in Fig. 122 is stitched using the Zigzag Disc while the machine is set for a 3 Bight and almost 0 Stitch. The Arrowhead Disc is used with the machine regulated for a 5 Bight and an almost 0 Stitch. Trim backing away along outside of stitching when design is completed.

Locate pocket section on underside of garment and from the right side, using Special Purpose Presser Foot No. 161455, a 2½ Bight, and an almost 0 Stitch. Proceed as for making buttonholes, eliminating the reinforcement bars of stitching at each end. Cut between bars of stitching to form pocket opening as was done in Fig. 123.

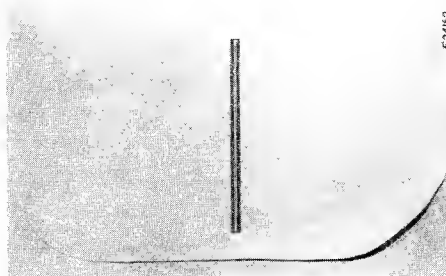


Fig. 123. Step 2 of Pocket in Process.



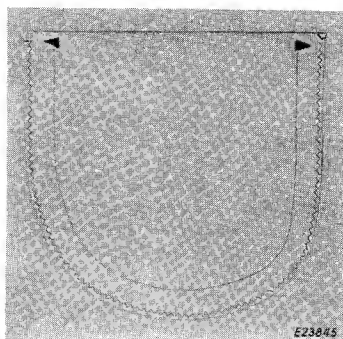


Fig. 124. Underside of Completed Pocket.

Bring pocket sections together and seam with straight stitching. Finish seam with Zigzag stitching to stay edges and prevent fraying. Fig. 124 shows the underside of the completed pocket. Place Arrowhead at each end of the bars of stitching from right side of garment to reinforce ends of opening and to complete pocket as shown in Fig. 125.

Simple, graceful designs are best for decorative pockets. The styling of the garment will often suggest a line that can be repeated to form the basis of the pocket design. The machine itself will suggest variations in design that are original and interesting, such as the design shown in Fig. 126.

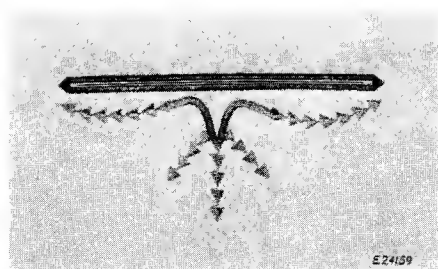


Fig. 125. Right Side of Completed Pocket.

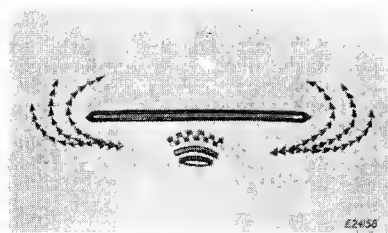


Fig. 126. Right Side of Completed Pocket.

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Fig. 127. Soutache Braiding with Special Purpose Presser Foot.

## BRAIDING

Use : All-purpose Throat Plate.  
Special Purpose Presser Foot 161455.  
Central Needle Position.  
0 Bight.  
12 to 25 Stitch.

Choose a design with simple, continuous, open lines that neither cross nor fall too closely together. Stamp or trace design on face of fabric.

Position Soutache braid under Special Purpose Presser Foot, then draw braid upward into the needle slot of the foot so that it lies on top of the lateral section of the foot. Stitch carefully, following the design and adjusting braid at points or corners with a stiletto or small screwdriver. The stitching will fall in the centre groove of the braid.

When stitching is completed draw ends of braid to back of fabric through an opening in the weave punctured with a stiletto or coarse needle. Fasten braid with hand stitching against the underside of the design for about an inch.

Soutache braid is available in both mercerised cotton and rayon. The mercerised cotton type is a suitable trimming for cottons, linens, homespuns, cotton tweeds and similar fabrics while the rayon type is best for woollens, synthetic fabrics and silks. According to fashion trends, Soutache braid is featured for table linens, draperies, and fabric furnishings as well as for wearing apparel.

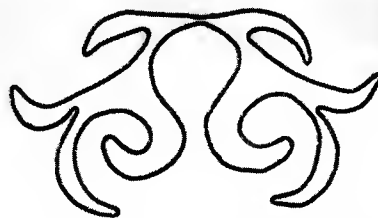


Fig. 128. Soutache Braiding Design Completed.

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### BRAIDING WITH GIMP

Use : All-purpose Throat Plate.  
Special Purpose Presser Foot 161455.  
Needle Position slightly right of centre.  
1 Bight.  
12 to 25 Stitch.  
Blind Stitch Disc No. 3.

Gimp yarns, available in various sizes in needlework departments, afford an interesting treatment when used as braid. The plain zigzag or the blind stitch can be used, depending on the effect preferred. Trace design on right side of fabric. Pass gimp through eye of the Special Purpose Presser Foot. The Needle Position and Bight may be varied slightly from the above settings to accommodate any one of several sizes of gimp yarn. When design is completed draw ends of gimp to the back of fabric through an opening in the weave punctured with a stiletto or coarse needle. Fasten gimp with hand stitching against the underside of the design for about an inch.

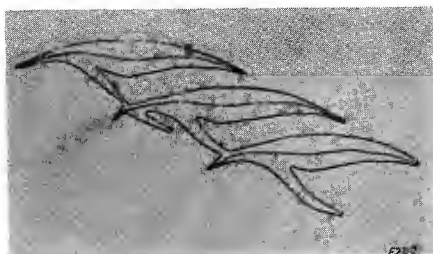


Fig. 129. Gimp Yarn Applied as Braid with Blind Stitch.

Braiding with rayon or metallic gimp is attractive on synthetics, woollens, felt or heavy silk.

### NOVELTY BRAIDING

Bold, interesting effects result from the use of automatic stitch patterns in combination with novelty yarns. Straw yarn is cleverly applied with the domino stitch. Two strands are held under the Special Purpose Presser Foot. Long yarn ends are allowed at intervals in the design to form tufts. Trim and brush yarn to give the effect illustrated.

Use : All-purpose Throat Plate.  
Special Purpose Presser Foot 161455.  
5 Bight.  
Above 25 Stitch.  
Domino Disc No. 6.

Novelty effects with yarns are attractive for fabric furnishings and play clothes. Many clever trimmings are possible by varying the yarn and design as well as the stitch pattern.

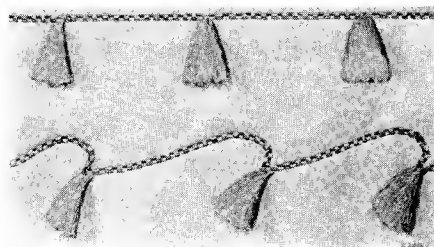


Fig. 130. Novelty Braiding with Straw Yarn.

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## APPLIQUÉ

Appliqué is effective on many types of apparel and fabric furnishings. Fabrics of like textures as well as fabrics of different textures and weaves are often used in appliquéing. For example in lingerie, lustrous satin is appliquéed to dull crepe to create beauty and interest by contrast in texture. Print fabrics are sometimes applied to plain fabrics in dresses, children's clothes, play clothes or linens, for accent. In draperies, motif and border prints may be applied to plain fabric of similar texture. When large motif designs are used in appliqué, the lines or sections of the design are frequently accented by continuing the stitching around these sections to bring out the design. In fabric furnishings such design sections are frequently padded to further accent the design and to give it a dimensional quality. Shadow appliqué on sheer fabrics is an important variation of plain appliqué and is described on Page 66.

After stitching, portions of the design are cut away, giving shadow contrast between portions

of the design having double and single thickness.

Bold monograms of contrasting fabric may be applied to bed spreads, blanket covers or other furnishings for the home.

A closely spaced satin stitch is usual for appliqué, making it unnecessary to turn raw edges to underside. The width of the satin stitch may be varied to accommodate the weave. Fine fabrics are appliquéed with a narrow satin stitch, while coarse fabrics require a wide satin stitch. In many cases the design is stitched to the garment with a satin stitch and the edges are trimmed away later. An alternative procedure is often used where the design is stitched to the fabric with a short straight stitch, the raw edges trimmed, and the satin stitch used to complete the outline, resulting in a smooth, lustrous edge. A trial sample is always made to determine the method most appropriate for the particular work being done, since appliqué is suitable on such a diversity of fabrics.

Use : All-purpose Throat Plate.  
 Special Purpose Presser Foot 161455.  
 Central Needle Position.  
 2 to 3 Bight.  
 Almost 0 Stitch.  
 Zigzag Disc No. 1.

The pocket appliqué, illustrated in Fig. 131, is made with a double thickness of fabric to provide a finish on the inside. All lines within the design are completed before the pocket is applied. Discs 3, 5 and 6 are used to give the stitched accents. The open portion of the pocket along the top edge is completed with a satin stitch before the motif is applied. The raw edge is trimmed along the stitching.

The design is then hand basted to the garment and the outline is stitched with a 12 to 25 straight stitch and trimmed. The final satin stitching on all outside edges is completed as a last step resulting in a durable and attractive appliqué. Such a pocket design is fitting for children's wear.

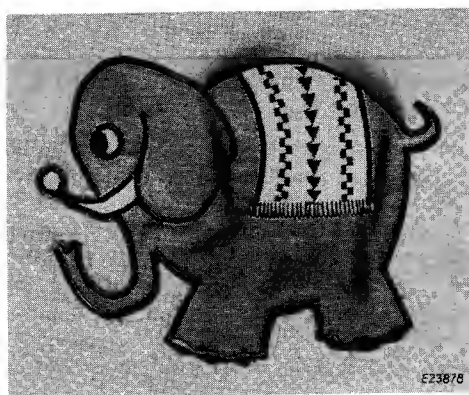


Fig. 131. Pocket Appliqué.

As a plain appliqué it is appropriate for furnishings in a child's room, for draperies, curtains, cushions, or bed spreads.

Gay motifs from everyday life are spirited and smart for resort wear, play clothes or furnishings in recreation rooms and the like.

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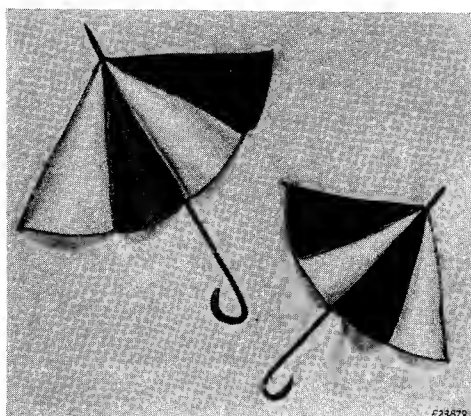


Fig. 132. Appliqué in Umbrella Design.

The outside lines are lightly indicated on the fabric to which the design is to be applied. Any portion of the design to be made with stitching only, is completed before the appliqué is done. The sections of the appliqué in the umbrella motif are joined with straight stitch-

ing and edges are trimmed. A backing or double thickness of fabric is desirable in such a motif. All edges that are to be free of the garment are finished with satin stitching and trimmed.

Edges that are to be secured to the garment are basted and stitched with straight stitching to the garment. After trimming raw edges away close to the straight stitching, these edges are appliquéd with a satin stitch. All thread ends are drawn to the underside of the fabric and tied.

Soft, lustrous, fine threads are appropriate for such stitching. A needle of a size suitable for the threads is used in accordance with the chart on Page 6. Increased pressure on the presser bar is frequently necessary to accommodate the multiple layers of material being handled under the foot. Pressure adjustment varies with the weight and texture of fabrics being used.

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## TWIN NEEDLE STITCHING

Use : All-purpose Presser Foot and Throat Plate.  
Twin Needle—see Page 8.  
Central Needle Position.  
0 Bight.  
12 to 25 Stitch.

Simple decorative stitching is effective when used to produce a design of straight or diagonal lines of stitching. The two threads carried by the twin needle interlock with a single bobbin thread and when the tensions are increased the fabric between the lines of stitching is raised. When stitching parallel lines, spacing should be such that foot does not ride over a previously stitched row, unless when using a special air tucking foot (see Form K6071) with parallel clearance grooves in its sole provided for the air tucks previously sewn.

Square corners are made by turning twice while the needles are out of the fabric.

Stitch until the inside needle has reached the corner. Raise presser foot when needles are out of the fabric. Make a one-eighth turn of the fabric, allowing the inside needle to enter for the second time into the corner stitch penetration. Turn hand wheel until the needles go down and up again and rise out of the fabric.

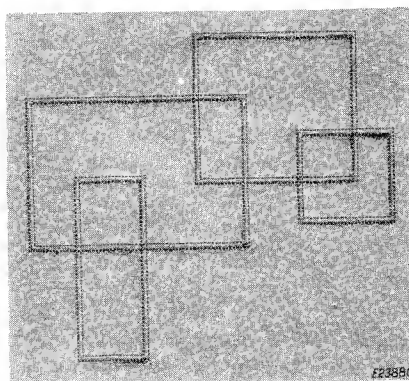


Fig. 133. Twin Needle Stitching.

Make the second eighth turn of the fabric. Allow the inside needle to enter for the third time into the corner stitch penetration. Continue to stitch in a straight line. When design is completed draw threads to the underside and tie.

Select thread of a size appropriate for the size of needle being used as well as a thread appropriate for the fabric. The Fabric, Thread and Needle Chart on Page 6 is a helpful guide.

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## THE RUFFLER

Use : Straight Stitching Throat Plate.  
Ruffler 86742.  
Central Needle Position.  
0 Bight.

Occasionally apply a drop of oil to parts in movable contact,

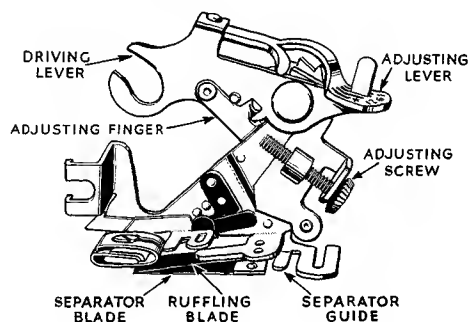


Fig. 134. Principal Parts of Ruffler.

This attachment offers a simple and effective way to make gathered and pleated ruffles.

Ruffles may be made separately or made and applied at the same time.

The ruffler is attached to the machine in place of the presser foot.

### Adjusting Points

1. The adjusting lever sets the ruffler for gathers or pleats. The number 1 space setting is for gathers, and places fullness at every stitch. Numbers 6 and 12 are space settings for pleats, spacing them either 6 or 12 stitches apart. The star is for plain stitching, and is used when grouping gathers or pleats.

2. The adjusting finger is used only for pleating and affects the width of the pleat. It is thrown out of action by bringing it out of contact with the adjusting screw located at the right of the ruffler.

3. The adjusting screw regulates the fullness of gathers or pleats. When turned in (clockwise) to its limit with the adjusting finger in place, the attachment is set for its deepest pleat. When turned out (anti-clockwise) to its limit and the adjusting finger out of action, the ruffler gives only a hint of fullness.

### Activating Parts

The ruffling blade and the separator blade are of blue steel and hold the material to be gathered between them. The ruffling blade forms the gathers or pleats by carrying the fabric to the needle according to the spacing and fullness to

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which the ruffler is adjusted. The separator guide is slotted to guide seam edges evenly and to separate the ruffle strip from the material to which the ruffle is attached.

#### Preparation

Raise the needle to its highest point.

Locate the attachment on the machine in place of the regular presser foot, and at the same time fit the fork of the driving lever over the needle clamp screw. Make sure both the presser bar screw and the needle clamp screw are tightened securely.

#### Gathering

- Set adjusting lever on No. 1 setting.
- Throw adjusting finger out of action.
- Turn adjusting screw for amount of fullness desired.

The attachment is set for maximum fullness by turning adjusting screw in (clockwise) as far as possible; for less fullness, turn adjusting screw out (anti-clockwise).

- Set stitch length to space the fullness.

A short stitch gives more fullness than a long stitch.

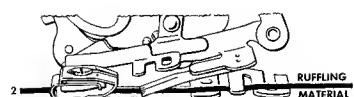


Fig. 135. Correct Position for Material.

- Insert material to be gathered between the blue blades and through the first separator guide.
- Lower presser bar and stitch. Always test the stitch length and ruffler setting on a scrap of self fabric before proceeding with the actual work.

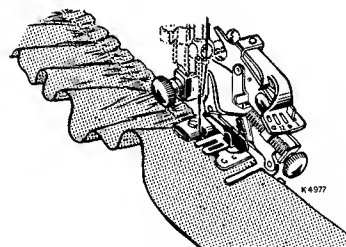


Fig. 136. Gathering with Ruffler.

#### Forming and Attaching a Ruffle in one operation—

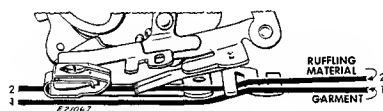


Fig. 137. Correct Positions for Materials.

- Place ruffle strip between the two blue blades and through the first separator guide.
- Place fabric to which ruffle is to be attached between the separator blade and the feed of the machine.

Right sides of the fabric are placed together when the seam is to fall to the inside.

- Proceed as for plain gathering.

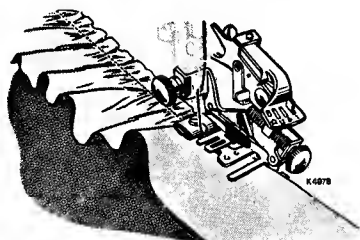


Fig. 138. Making a Ruffle and Attaching it in One Operation.

#### Pleating

- Move adjusting lever to space setting desired for pleats of either 6 or 12 stitches apart.
- Activate adjusting finger.
- For deepest pleat, turn adjusting screw in (clockwise) to its maximum. For shallower pleats, turn adjusting screw out (anti-clockwise).
- Set stitch length. A short stitch places pleats close together. A longer stitch separates the pleats for a greater distance.

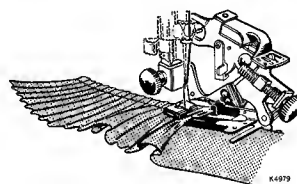


Fig. 139. Pleating with Ruffler.

- Insert fabric to be pleated between the blue blades and through the separator guide.
- Lower presser bar and stitch.

#### Group Pleating

By using the star setting (plain stitching) alternately with the 6 or 12 setting, pleats are formed in groups. Even spacing between groups is easily accomplished by counting the number of stitches.

## FAMILY MAINTENANCE SEWING

### MENDING A RENT OR TEAR

Household linens, sheets, towels and pillow cases are quickly mended on the SINGER Automatic Swing-Needle Machine by holding an underlay of straight or bias fabric underneath the tear and stitching with the Multiple Stitch Zigzag Disc No. 2 over the tear bringing the edges of the tear together and reinforcing them. The ends or corners are given added strength by using a shorter stitch length.

Use : All-purpose Presser Foot and Throat Plate.

Central Needle Position.

5 Bight.

25 to almost 0 Stitch.

Multiple Stitch Zigzag Disc No. 2.

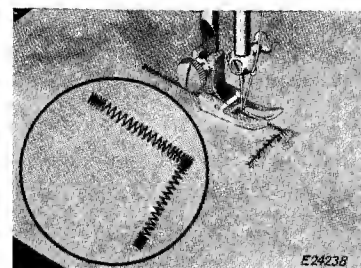


Fig. 140. Mending a Tear.

### MENDING TROUSER POCKET

Regulate machine in the same way as for mending a tear, and stitch pocket together allowing the needle to stitch very close to the edge on its right stroke, reinforcing the edge and closing the seam at the same time.

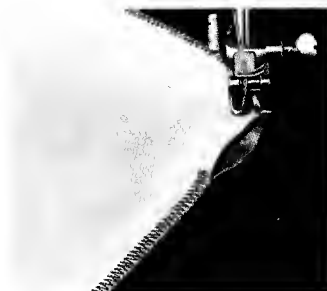


Fig. 141. Mending a Trouser Pocket.

### GIRDLE REPAIRS

Zigzag stitching is well suited for use on garments of an elastic nature that require firm, flexible stitching. The Multiple Stitch Zigzag Disc No. 2 as well as the Plain Zigzag Disc No. 1, are appropriate for such repairs. The stitch length and bight are regulated according to the need. A needle slightly larger in size than is used for regular stitching is sometimes necessary to accommodate the multiple layers of fabric and elastic. Where both lengthwise and crosswise elasticity is important, multiple stitch zigzagging is best suited.

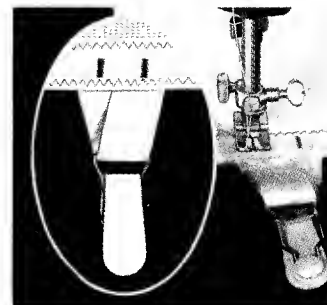


Fig. 142. Repairing a Girdle.

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## ELASTIC WAISTBANDS

Use : All-purpose Presser Foot and Throat Plate.

Central Needle Position.

2 Bight.

12 Stitch.

Zigzag Disc No. 1.

Stretch elastic while stitching to provide the degree of fullness required in the garment. If a waistband, fit elastic for snugness on the individual and join ends of elastic. Divide both elastic and garment into quarters and pin at these intervals. Stretch elastic between these points to dimension of garment while stitching. With top edge of elastic in line with raw edge of garment, zigzag two rows, following the cords in the elastic. Trim away raw edge of garment near top line of stitching.



Fig. 143. Renewed Elastic Waistband.

## REPLACING BLANKET BINDING

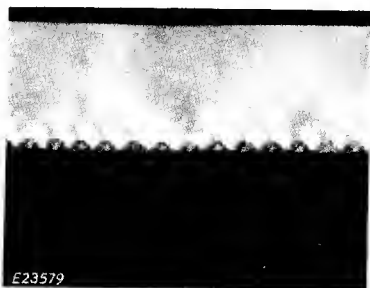


Fig. 144. Blanket Binding Replaced.

The Multiple Stitch Zigzag Disc No. 2 gives an excellent stitch for applying blanket binding and affords both a decorative and durable finish. Remove worn binding. Baste new binding securely in place. Stitch, using the All-purpose Presser Foot and Throat Plate, 5 Bight, 12 to 25 Stitch and Multiple Stitch Zigzag Disc No. 2. Increase pressure adjustment to accommodate the thickness of the blanket.

## DARNING

Stockings, children's balbriggans, leggings, and knit wear of all kinds, as well as household linens are often darned on the sewing machine. The area near the worn section must be held taut in embroidery hoops. The feed is lowered and the presser foot removed. Refer to Page 58, for lowering feed. Set Needle Position at Central and Bight at 0, locking bight with screw E2, Fig. 22, Page 19.

When darning knitwear, reinforce opening by positioning needle  $\frac{1}{4}$ " outside of hole, lower the presser bar to engage tension discs, and run reinforcing stitches  $\frac{1}{4}$ " from edge completely around hole, moving hoops with both hands.

This reinforcement may be omitted for firm fabrics whenever it seems to be desirable.

With a steady, continuous movement, move hoops backward and forward across hole, keeping the lines of stitching closely spaced and even in length. Slow movement of hoops will produce a short stitch while rapid movement will produce a long stitch. For knit and tricot fabrics a longer stitch is best because it is softer when the garment is worn. A short stitch is best for cottons and household linens, because it approximates the weave of the fabric and is strong enough to withstand many launderings.

Use : Lowered Feed (see Page 58).

Straight Stitching Throat Plate 173090.

Central Needle Position.

0 Bight.

0 Stitch.

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